Scaling Enterprise Agility to Transform Public-Sector Organizations: Waternet

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Enterprise agility is driving digital business transformation in established organizations. Pioneering CIOs are experimenting and reforming their culture, technology and data. One public-sector organization successfully making the transformation is Waternet, a public utility in the Netherlands.

Key Findings

Public-sector organizations operating in a fast-changing digital business environment:

- Endeavor to exploit digital practices and technologies to fulfill their vision and mission, but can't match the natural ingenuity, speed to market and adaptability of native digital enterprises.

- Lack enough leaders with deep practical experience of lean and agile transformations.

- Struggle to rapidly and sustainably transform their culture, technology and data to be "future-proof" and fit to deliver services for the digital era.

- Aspire to be enterprise-agile by appropriating lean and agile principles and practices top-down, but are constrained by established structure and processes, and "red tape" that inhibits innovation.

Recommendations

Public-sector CIOs leading innovation and strategic business change through enterprise-agile transformation should:

- Attempt this only when the CEO and enterprise leaders have a clear digital business ambition and are champions of enterprise-agile transformation.

- Recruit leaders with deep practical experience with lean and agile transformations to ramp up capability and confidence.

- Design and execute a comprehensive enterprise-agile transformation roadmap traversing culture, technology and data.

- Adopt and scale enterprise-agile principles and practices swiftly, deliberately and iteratively, acting in short time horizons, continually reflecting and adapting the transformation roadmap.

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Analysis

Digital business is creating a new world that old world organizations must learn to live in. Public-sector organizations that have operated successfully for decades or even centuries are proving to be unfit to deliver the services that citizens and communities will need in the digital era. To lead, innovate and fulfill their vision and mission effectively, public-sector organizations must be able to operate and adapt as swiftly as external conditions shift and internal expectations change.

Pioneering traditional organizations in both the public and private sectors are embarking on top-down enterprise-agile transformation initiatives to adapt to digital business conditions. They draw on experience of three waves of organizational change. They have learned from a first wave of business productivity improvement practices applied late in the 20th century, such as Lean Six Sigma and business process engineering. They have taken lessons from a second wave of agile principles and practices adopted in IT early in this century.

These "third-wave" pioneers confidently experiment to reform their culture, technology and data. They are rapidly, deliberately and systemically evolving from old world enterprises into new world, resilient, enterprise-agile digital enterprises (see Figure 1).

Enterprise agility is an organization's capacity to sense and rapidly respond to market change.

Figure 1. The Three Waves of Enterprise Agility
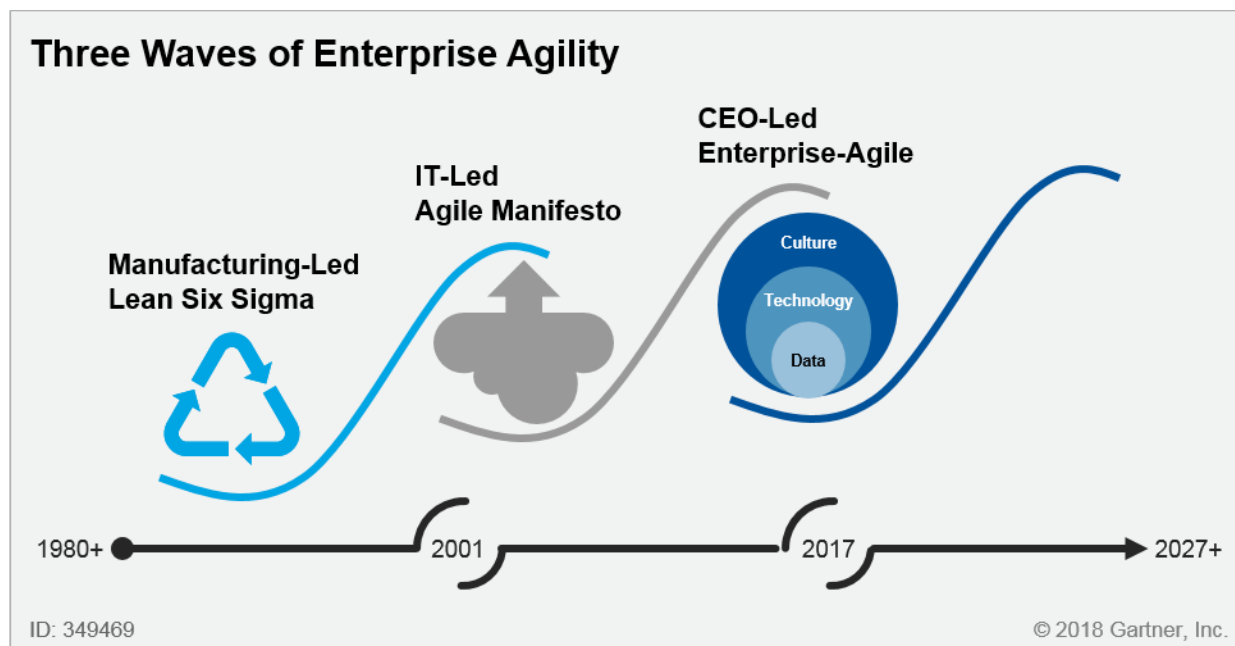
Source: Gartner (February 2018)

One established public-sector organization successfully pioneering this "third wave" of enterprise transformation is Waternet, a utility in the Netherlands. Waternet is achieving its goals to adopt an enterprise-agile mindset, transform its business processes, scale its technology, and enrich its data to be "fit" for the digital economy.
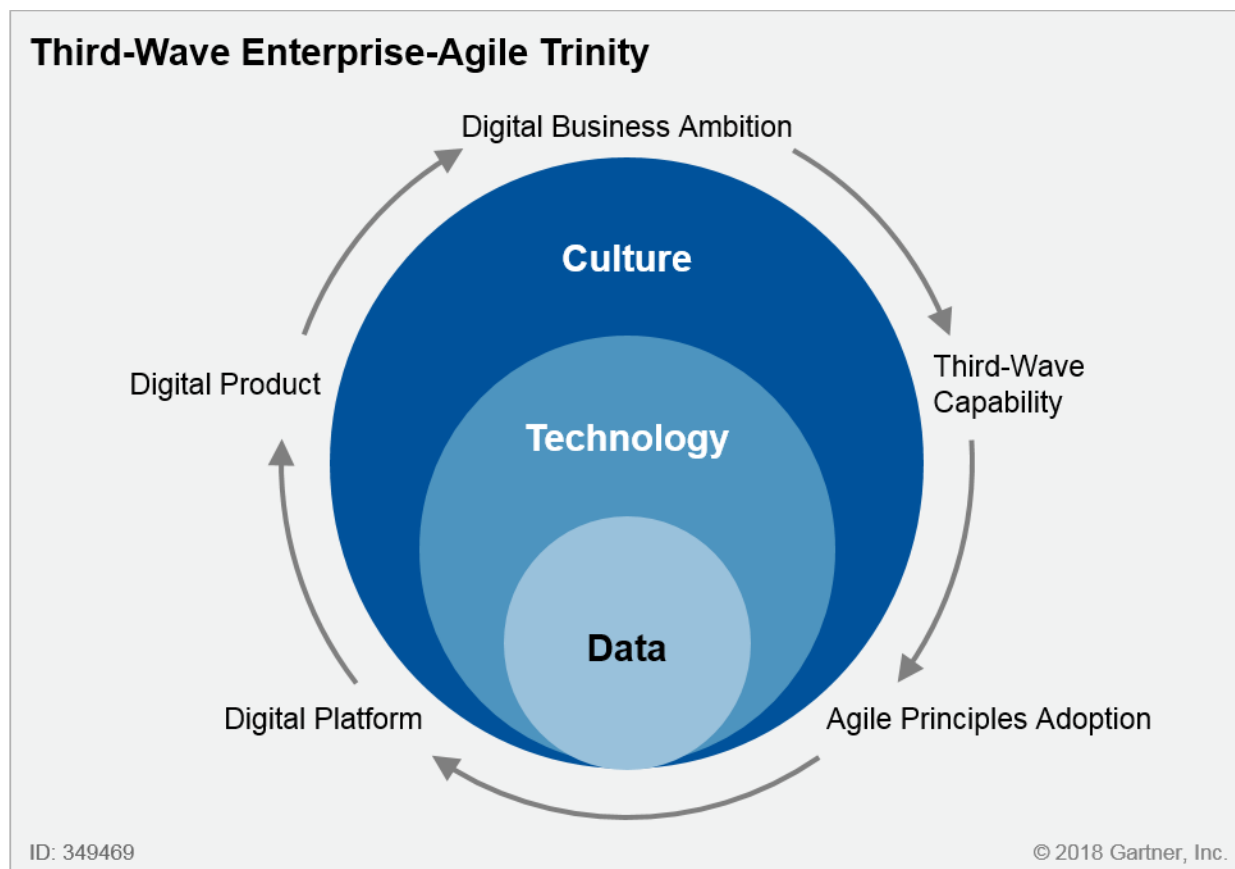
The Third Wave of Enterprise Agility

What Can We Learn From Third-Wave Pioneers?

Third-wave enterprise-agile transformation initiatives delivering desired results today focus on reforming a trinity of organizational assets: culture, technology and data.

These third-wave pioneers exhibit common attributes. They scale deliberately and confidently with strong forward momentum. They learn as they go, continually reflecting, adapting and changing. The endgame for them is to leverage their reformed asset trinity via digital platforms and ecosystems to generate digital products for global consumers in the new world digital economy (see Figure 2).

Figure 2. Third-Wave Enterprise-Agile Assets: Culture, Technology and Data

Source: Gartner (February 2018)

(See "Digital Business Transformation in Established Organizations: The Third Wave of Enterprise Agility.")

Waternet: Digital Renaissance Driven by an Altruistic Service Ethos

Waternet is the water company for Amsterdam and its surrounding area. Waternet, a public-sector utility serving approximately 1.3 million citizens, is the only water company in the Netherlands dedicated to the entire cycle: wastewater, drinking water, water levels and clean surface water. Waternet manages critical infrastructure, including sewage and wastewater treatment plants, dikes, and the famous Amsterdam canals, bridges and sluices.

The Waternet corporate vision is:

"Digitalization enables Waternet to generate more value from our water cycle."

By June 2017, nine months after the united business-IT transformation effort commenced, and two years after transformation started in marketing in 2015, Waternet was reporting positive results:

- **Customers Choose Digital.** In 2015, roughly 8% of Waternet's 1.3 million customers interacted primarily via a digital channel. By improving digital business processes in regular iterations and responding to changes in customer preferences, the volume of digital business interactions has increased in two years to 74% of its total customer interactions, and is still increasing.

- **Costs Are Reduced.** Simultaneously, the costs of business processing declined by 20% compared to 2015, saving roughly €1.5 million annually.

- **Customer Satisfaction Rises.** Since starting in 2015 to systematically align and integrate customer processes, data and technologies, Waternet's average customer satisfaction has continued to rise. The organization's satisfaction ranking with its customers increased in 2017 from 6/10 — an average performing company — to an 8/10 — an industry leader.

Actions: "It's An Engineering Organization. We Like to Tinker and Improve."

Digital Business Ambition: To Be the Best Public Service

- Only attempt this when the CEO and enterprise leaders have a clear digital business ambition and are champions for enterprise-agile transformation.

At the start of 2017, Waternet's CEO Roelof Kruize told its top leadership that "to be successful, to be the best public-service providers in the Netherlands … there is no path ahead without digitization."

Kruize has laid out an alternate, pragmatic and tangible target for Waternet that brings its corporate vision to life:

> "Cost reductions are to be returned to the citizen-consumers of Amsterdam, to keep drinking water in the Netherlands at the same price as it was 150 years ago at the founding of Waternet, regardless of climate change or other challenges."
>
> Waternet CEO Roelof Kruize

Waternet staff often quote this target as an inspiration that aligns the workforce with a common sense of purpose and helps drive change.

Third-Wave Capability: Find the Right People, Then Collaborate Wildly

- Recruit leaders with deep practical experience with lean and agile transformations to ramp up capability and confidence.

Waternet has acquired and retained third wavers' experience to shape and lead their enterprise-agile transformation. Third-wave leaders bring knowledge of what's been tried, what works well, what doesn't, and what may work better if tackled differently. They commonly exhibit a strong "bias for action," getting things "done," in agile terms, to enact change quickly and iteratively, learning and adapting as they proceed.

Enterprise-agile transformation at Waternet was first introduced in its customer-facing business operations, when the Waternet board of directors created a new role of chief digital officer (CDO) in marketing and online channels. Mario Kortman, Waternet's CDO, was recruited in 2015. He is a third-wave digital-native leader with a nontraditional curriculum vitae for an engineering and service organization — a background in philosophy and political science, not IT, engineering or business management.

Waternet's chief information officer (CIO) since mid-2016 is Simon Rientsma, an experienced agile practitioner in IT. Rientsma has worked at Waternet since 2008 and acquired deep organizational knowledge.

Teaming up in 2016, the CDO and CIO formed a potent, highly experienced, complementary leadership duo. They took the lessons learned when transforming marketing and online channels to evolve and extend enterprise agility — first in IT, and then across Waternet. "It's an engineering organization. We like to tinker and continuously improve," says Kortman. Based on their previous agile experiences, the pair knew what to expect, how to mitigate roadblocks proactively, and how to engage the people of Waternet to be a part of the transformation.

Transformation Roadmap: Think Big, Act Small, Scale Fast

- Design a comprehensive enterprise-agile transformation roadmap traversing culture, data and technology.
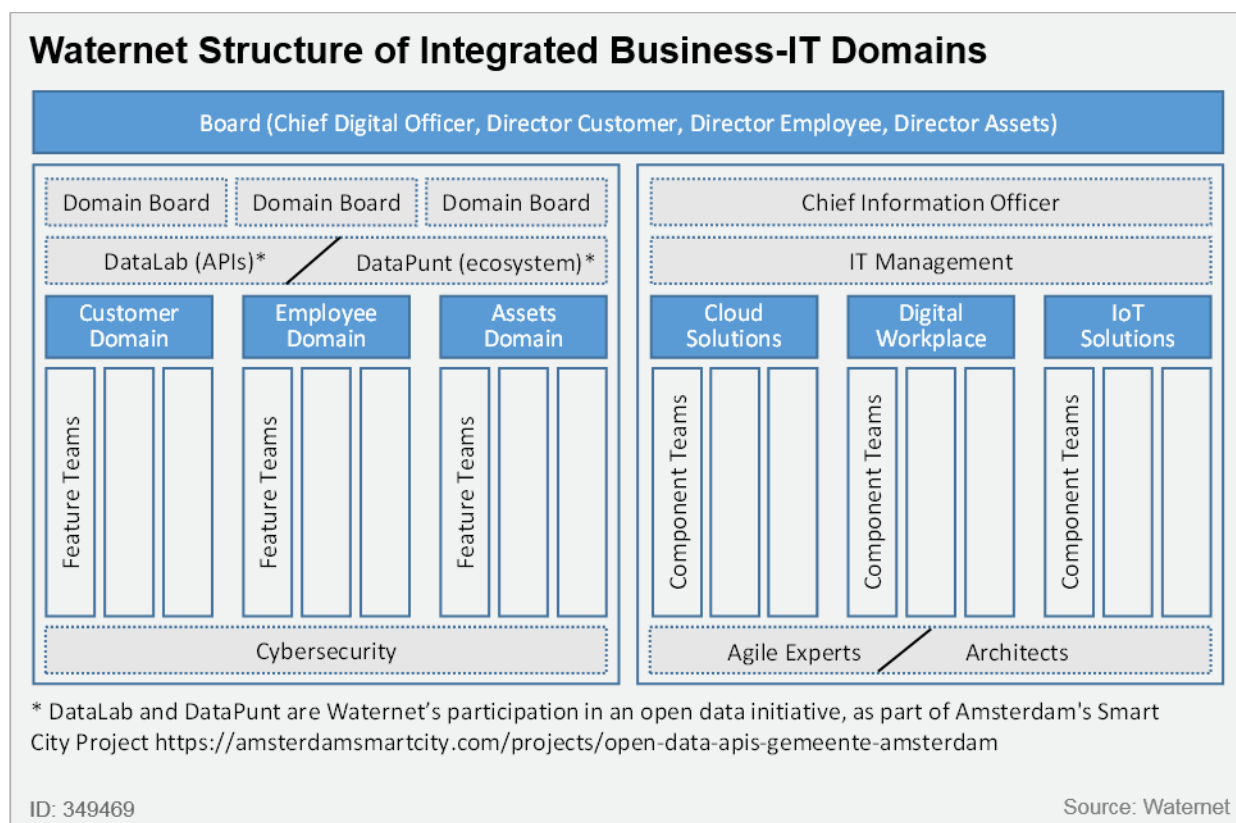
Kortman and Rientsma started collaborating in mid-2016. By September 2016, they had already created a "minimal viable product" (MVP) transformation roadmap, articulated an enterprisewide transformation vision, and initiated an epic-level transformation backlog. Applying agile practices from the start, the CEO was the "product owner" with the "vision" for the transformation (similar to the "sponsor" in waterfall terms), and C-level stakeholders participated in the planning sprint team. The roadmap was designed to increase organizational agility and traverse the three organizational seams of culture, technology and data.

The driving principle was "think big, act small, scale fast." Once business and IT philosophically came together, Waternet fell into a highly productive cadence.

Business and IT were reformed into domains. By mid-2017, the three business domains of customer, employee and assets were aligned with value streams. The customer domain had been launched in 2015. The other two, employee and assets, formed in 2016, were supplemented with enterprise architecture resources. IT has three solution domains: cloud, digital workplace, and Internet of Things (IoT), supplemented with agile and infrastructure architecture resources. Examples of ideas being developed are IoT and AI environments for Amsterdam's dikes and canals.

IT's solution domains provide a professional "home" for IT people and capabilities. They form smaller "functional" teams within a domain. IT people are allocated — or increasingly, they "self-select" — to work in integrated business-IT "feature teams" in the business domains. Solution (not enterprise) architects are assigned to each domain shared across the feature teams (see Figure 3).

Figure 3. Waternet's New Structure of Integrated Business-IT Domains

Waternet Structure of Integrated Business-IT Domains

Board (Chief Digital Officer, Director Customer, Director Employee, Director Assets)

Domain Board | Domain Board | Domain Board | Chief Information Officer

DataLab (APIs)* / DataPunt (ecosystem)* | IT Management

Customer Domain | Employee Domain | Assets Domain | Cloud Solutions | Digital Workplace | IoT Solutions

Feature Teams | Feature Teams | Feature Teams | Component Teams | Component Teams | Component Teams

Cybersecurity | Agile Experts / Architects

* DataLab and DataPunt are Waternet's participation in an open data initiative, as part of Amsterdam's Smart City Project https://amsterdamsmartcity.com/projects/open-data-apis-gemeente-amsterdam

ID: 349469   Source: Waternet

Organization structure as of June 2017

Source: Waternet

A game-changing move for Waternet was colocating feature teams. Several floors of Waternet's modern Amsterdam building have been redesigned to create attractive shared workspaces. These floors are "open plan" in principle, yet discreetly divided into self-contained team areas, each well-equipped to support agile practices with both analog (paper/whiteboards) and digital boards (screens). The rationale and ROI were to encourage faster team forming and healthy collaboration, and reduce counterproductive behaviors seen in the past, such as "fighting across silos." Colocation ensures (and sometimes forces) conversations to occur early and often: to identify and resolve conflicts before they escalate, and encourage open communication and interactive team problem solving, as opposed to avoiding issues. Colocation mitigates design and delivery risk.

After bringing the business and IT closer together, the next step in Waternet's transformation roadmap was integrating operational technology (OT) with IT. OT is traditionally the engineering-

based "heart" of a contemporary utility. OT is technology-rich but historically separated formally and culturally from IT in a utility business. By mid-2017, with C-level support, Waternet's OT function had started to merge with IT's IoT solution domain.

Waternet aims to complete the shift to working in domains and teams across all 2,500-plus staff in the organization by 2019.

Agile Principles Adoption: Deep Democracy

- Scale enterprise-agile principles and practices top-down swiftly, deliberately and iteratively, acting in short time horizons, and continually reflecting and adapting the transformation roadmap.

Waternet is adopting agile principles and practices at every level of the organization, supported by comprehensive education and coaching. The CDO and CIO agree that the Dutch workplace culture encourages what they call in Waternet "deep democracy."[1] They say the concept of "deep democracy" is a traditional cultural norm in the organization that has natural synergies with agile principles, and continues to strengthen as the transformation progresses. Employees are encouraged to speak openly, voice concerns and debate issues. Waternet's transformation leaders say they want their people to be "brave enough to say no," as it's better to surface concerns early than harbor passive resistance.

Agile Capability

When Waternet started introducing agile principles and practices, IT strongly resisted at first. CDO Kortman says that when he arrived, "IT thought the business was the enemy. No one looked at how we could join them." The CDO and CIO, both experienced agile practitioners, used Scrum (agile) practices from the start of their collaboration — "walking the talk." They demonstrated to their people how they wanted them to work by using an agile approach at the leadership level in their strategic and operational planning.

The start of the process to develop agile capability in IT was chaotic, says CIO Rientsma, but the staff learned on the job. When asking IT, "Are you in or out?" and "Do you want to be agile or not?" Rientsma says that a few IT people at first weren't fully committed. Those individuals were moved to other areas of Waternet. The rest of IT chose to embrace the shift toward agile capability and becoming a future-ready digital workforce.

The CIO says Waternet now looks beyond IT to extend its agile, digital capability. He believes there is an available pool of talented people in the business "who know everything about the business, but need to learn about IT." Rientsma identifies people who are primed for change inside the organization and has enabled them to assume roles in the newly formed business domains.

Agile education sessions are conducted for business and IT staff when new domains and feature teams are formed. Although "agile" was a relatively new concept in the business, Waternet's experience has been that business participants generally approach this new way of working with curiosity and goodwill, learning fast. Waternet's works council, a local Dutch function that represents staff in enterprise decision making, is fully involved in the change. By mid-2017,

Waternet's contact center, field workers and procurement functions in the business were starting to form and work in lean circles, using supporting methods and tools similar to those of the agile practitioners. Therefore, the alignment of methodologies was not such a dramatic leap.

Shared Agile Language

Waternet's agile coaches help educate and maintain standard approaches and shared language across the organization. Productivity improves once people have an effortless, consistent understanding of the basic terms, ceremonies and tools used in agile practice.

A unique Waternet standard was developed by tailoring Scrum, Scaled Agile Framework (SAFe), and lean principles and practices. Flexibility is evident. The CIO says that the transformation team looked at SAFe, took the course, and then "only used what is valuable to us at Waternet."

Common practices extend to standard sprint lengths, start and end days, and ceremonies, contributing to optimized delivery cadence and velocity (that is, higher productivity). Analog (paper) and digital boards are used, supported by a common (digital) agile management application.

Although some of the coaches are from external suppliers, CDO Kortman says that the coaches maintain commonality across the teams because "they compete" to deliver great outcomes. The coaches also ensure synergy of values and focus in the blended internal/external teams.

Feature teams are composed of a roughly 30/30/30 resourcing split of IT, business and external resources, and supplier partners are selected who understand the enterprise-agile transformation vision.

Agile Governance

To govern enterprisewide demand and supply, a Digital Board was formed, which is headed by the CDO and the executive directors of the customer, employee and assets domains.

The Digital Board decides epic-level enterprisewide backlog priorities. Waternet has adopted SAFe program design principles to help maintain visibility, synchronize and agree on shared enterprise priorities across all domains. It also helps allocate and balance scarce delivery resources across a complex program of work that is delivered in three-month cycles. Each business domain has a Domain Board to continually review and prioritize its backlog of work.

Waternet's business and IT domains gather every quarter for an intense one-day planning session derived from SAFe practices. At this time, the entire enterprisewide backlog is reprioritized, and the participants agree on the most valuable use of scarce resources for the quarter ahead to deliver a set of target outcomes across all three business domains.

The exercise is a powerful collaborative event, where leaders and every involved staff member collaborate to create a high-level delivery plan for the next three months. Agreed-to work is distributed across several agile feature teams during planning, and then executed in the next three-month cycle, with each feature team working in sequential iterations of four three-week sprints. Scaled agile metrics at the enterprise-portfolio level are monitored and reported.

Results: Customers Choose Digital

Culture: "People First"

The cultural renaissance in Waternet creates the organizational environment to achieve the first of its three corporate goals — "sustainability."

The CDO — an "IT outsider" experienced in organizational change management — says he found a rigid middle-management mindset when he started in 2015. Waternet management tended to follow established plans instead of responding to change. He set out to change that mindset with what he calls a "people first" approach.

In 2015, CEO Roelof Kruize initially "'tolerated' agile change, and now he supports it. He trusts us to get on with it.'" says the CIO. Waternet is enhancing its "trust quotient," which empowers people and creates a workforce more capable of making the right decisions.

Technology: Business and IT Integrate for Productivity

Technology change is supporting Waternet's second goal of "efficiency" as it converts into a digitized service provider.

Change is occurring at a high pace. Waternet brings people from across the business and IT into integrated, business-IT feature teams to incubate the new mindset and experience a new way of working using agile principles and practices. When feature team members return to business-as-usual roles, they have become natural change agents, sowing the seeds of enterprise-agile cultural change across the organization.

By May 2017, business and IT goals were aligned. Fifteen percent of Waternet's total staff of about 2,500 were working in the new agile way in integrated feature teams. Forty percent of Waternet's IT staff of approximately 160 had been allocated full time into those feature teams, which had completed 43 three-week sprints.

Data: Digital Scale and Data Coalescence

Digital scale and data coalescence are enabling Waternet to meet its third goal of "customer centricity."

Technology's contribution in Waternet is now considered to be most highly valued in accelerating innovation. Agile adoption has enabled their business ideas to be explored, developed and delivered into production, and the digital services to be scaled up faster.

Waternet is participating in Amsterdam's smart city initiative, which aims to fuel innovation and strengthen the Netherlands' economy. Open datasets and APIs are shared across the smart city data portal, DataPunt, an ecosystem of citizens and research institutions.

Examples of ideas being advanced in the business domains are IoT-enabled dikes and canals, devising smarter algorithms to solve engineering and service problems, and applying AI and analytics to mine Waternet's data as well as publicly available open datasets.

Lessons: Pick Bold Leaders, Collaborate Earlier and Make Brave Decisions

When asked, "What would you do differently if starting over?" CDO Kortman says, "Choose the right people, collaborate even more and earlier, and make the brave decisions faster."

Kortman explains that he would start with the people first, finding a team of individuals with the right attitude and persona. The characteristics he seeks are a bias toward cooperation and action, a "can do" attitude, and a desire to "help each other." As an example, Kortman says he would choose "people who when they see something dropped pick it up and return it to the owner."

CIO Rientsma says if he were starting again he would try to "reduce the fighting between business and IT. We lost too much energy and time," he explains.

The CDO and CIO agree that this transformation is working at Waternet because CEO Kruize is their strongest advocate, and steers Waternet toward an altruistic vision: to reduce the cost of water, create a sustainable global environment, and contribute to the future well-being of the community.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Digital Business Transformation in Established Organizations: The Third Wave of Enterprise Agility"

"Public-Sector CIOs Lead Change With Equal Measures of Vision, Communication and Persistence"

"2018 CIO Agenda: Industry Insights Overview"

"Unleash the Power of Digital Ambition to Realize Your Digital Future"

"A Growth Mindset Can Help CIOs Reboot Leadership and Culture for the Digital Era"

"Redesign the IT Operating Model to Accelerate Digital Business"

"The Armed and Potent Digital Leader: How to Become a Digital Dragon"

"PMOs Can Deliver Faster Results With Business Agile"

Evidence

Primary research consisted of interviews with and material provided by Waternet in May 2017 and July 2017.

[1] E. Meyer. "Being the Boss in Brussels, Boston, and Beijing." Harvard Business Review. July-August 2017.

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