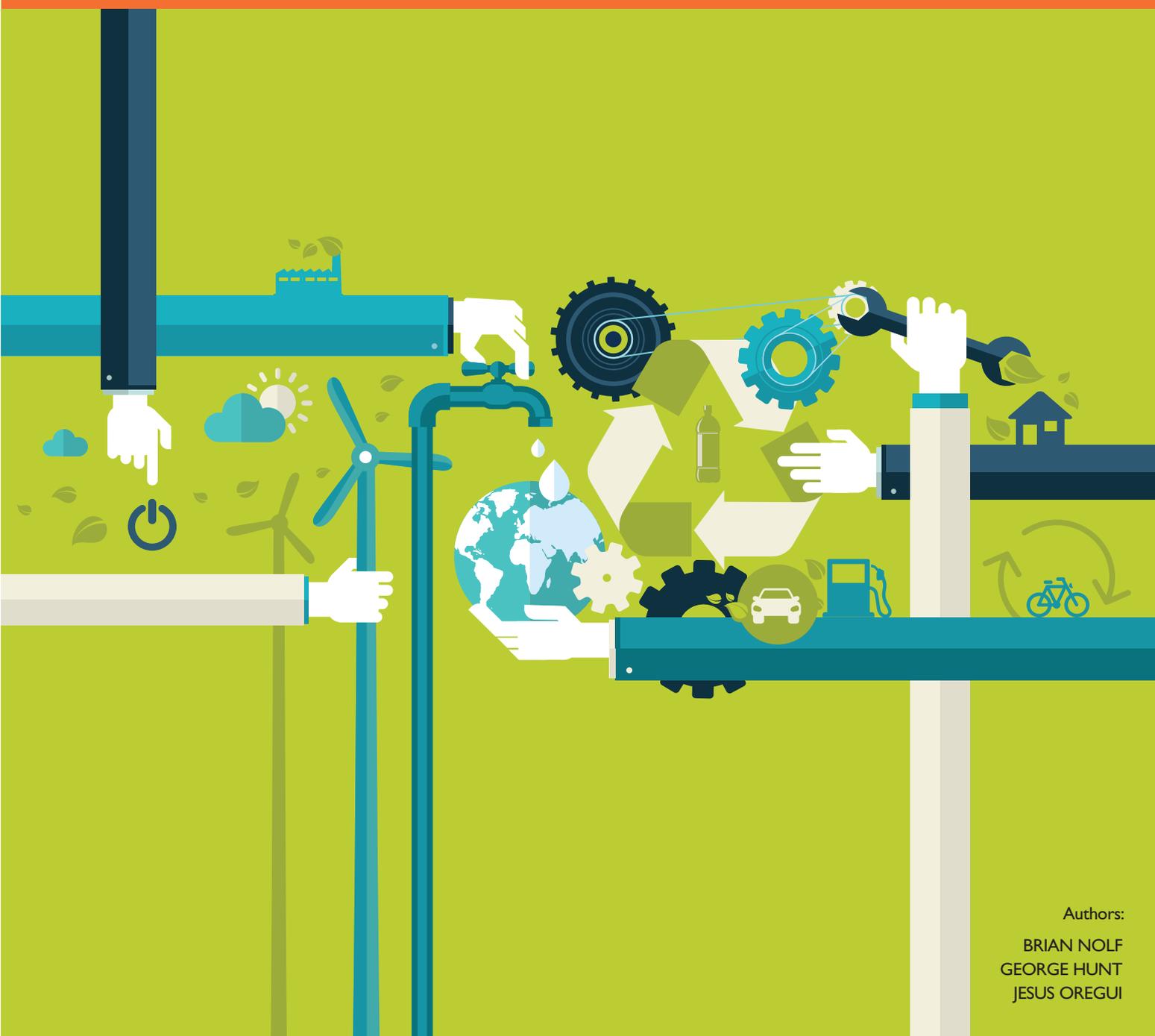


OUTPERFORMING CAPITAL DELIVERY PROGRAMMES IN WATER INDUSTRY

INTRODUCING ENHANCED SUPPLY CHAIN COLLABORATION



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Abstract

Driven by the need to improve the performance on their capital delivery programmes, water utilities face the challenges of effectively managing complex supply chain networks woven into a number of strategic alliances. In the UK, the new regulatory period for capital delivery led by the Water Services Regulation Authority (Ofwat) and known as AMP6 2015-20, has gained the attention and focus of the UK water utilities to find new ways of managing their supply chains. In addition, the recent introduction of Total Expenditure (TOTEX) based accounting by Ofwat necessitates stronger linkages between operational costs and capital delivery costs. This paper talks about how digital supply chain collaboration platforms can boost operational efficiencies and help water utilities meet their capital delivery commitments to regulators and end users.

Growing investments in water infrastructure

An ageing Infrastructure continues to be one of the main concerns of water utilities in the UK. Today, the industry is bowing under the burden of antiquated assets, the inability to meet demand from an increasing population, the pressure to adopt smart technology, and the challenges posed by growing urban congestion. Investments in modernization and asset refresh are increasing. There is £44 billion of Ofwat-approved capital investmentⁱ waiting to be delivered in the AMP6 periodⁱⁱ. Given the size of the investments, capital delivery programs are naturally coming under scrutiny. Much of the investments will go to construction companies who will be contracted to deliver large capital projects. A few percentage points shaved off the £44 billion through better capital delivery will

translate into substantial saving for the industry.

Water utilities have been investing consistently in technology to develop their online customer service, relationship management, customer interactions and payment processes. Some have invested in data and analytics to ascertain asset condition and forecast risk. They have used technology to move to a predictive asset management model and bring down operational costs, improve service resilience and boosts customer satisfaction. However, they have yet to begin applying technology with equal focus and urgency to others parts of the business. Procurement, supply chain management and approaches to support alliances for capital delivery are three such areas that have had little attention. These areas have seen the use of email or Sharepoint for document exchange. At best, they have used modest in-house portals where sophisticated solutions were required. This needs to change.

The need to outperform capital delivery programs

The recent introduction of TOTEX-based accounting by Ofwat into the APM6 regulatory period will increase the focus on managing the relationship between operational costs and capital delivery costs. With an incentive to outperform agreed baseline costs and meet milestones, every capital delivery program will aim for efficiencies in procurement, inventory reduction, resource coordination and overall scheduling optimisation. This will trigger a period of cooperation, coordination and collaboration between partners engaged by a water utility to deliver a capital program.

There is a good reason for success being elusive thus far, despite the intent. Capital delivery projects in the industry have too many moving

parts. Orchestrating projects with multiple partners and several layers of suppliers – from initiation, program awards, contracting, executing, overseeing, assessing and preparing for long-term operations and maintenance -- is a herculean task. Meeting execution goals, realizing business plans and delivering against shareholder expectations has, historically, been difficult. Can they be suddenly outperformed? Can water utilities reduce supply chain and inventory costs? Can they become more efficient to meet the goals of AMP6? The answer is “yes”.

The ‘how’ of outperformance

Today, executives orchestrating capital delivery programs can lean on advanced supply chain collaboration platforms that are capable of managing and optimizing extended supply chains (see Figure 1: Multi-Tier Supply Chain and Collaboration Processes).

SUPPLY-SIDE SOLUTIONS

MULTI-TIER COLLABORATION

DEMAND-SIDE SOLUTIONS

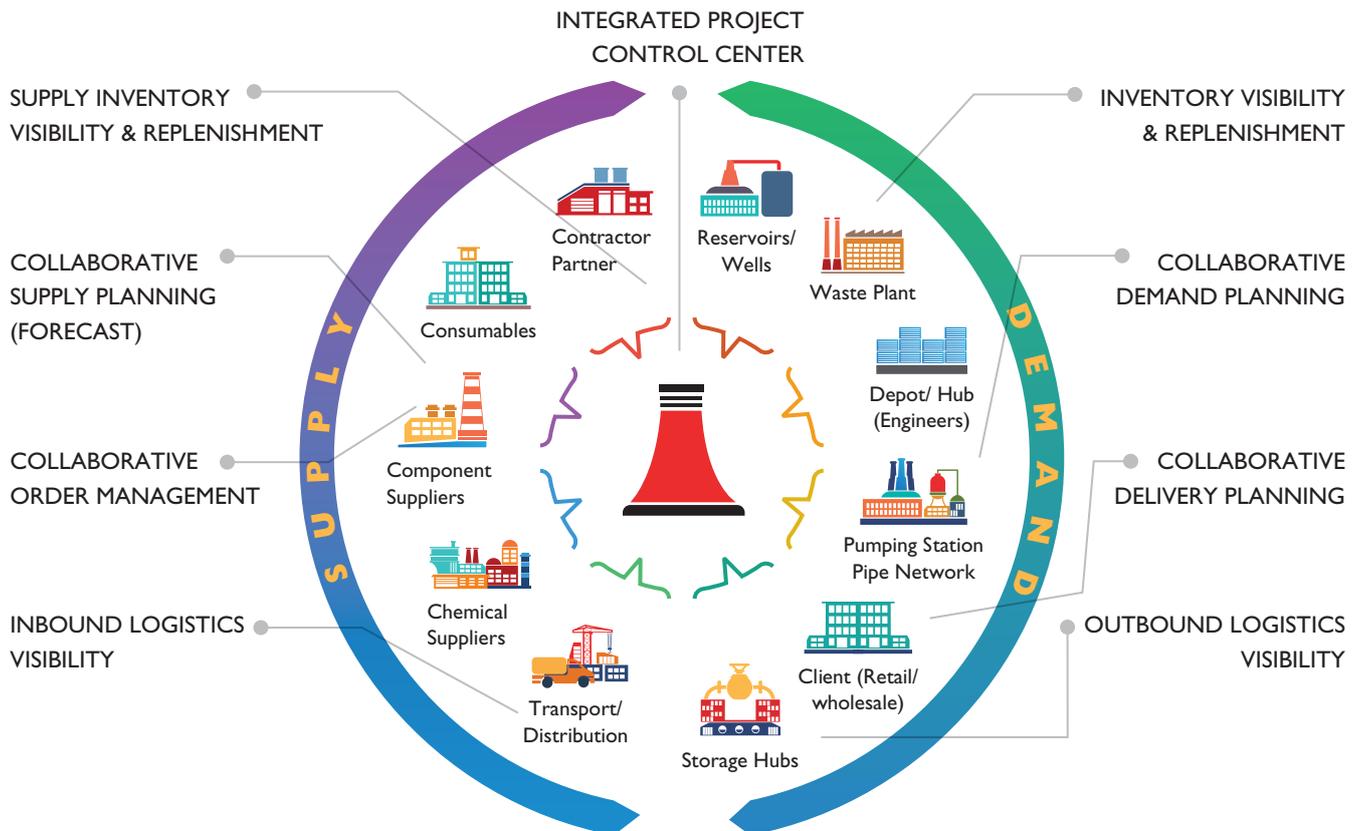


Figure 1: Multi-Tier Supply Chain and Collaboration Processesⁱⁱⁱ

Benefits of Cloud Adoption

A cloud-based supply chain collaboration platform can transform their fragmented and disconnected supply chains into a vibrant interconnected digital water value chain. Today's leading edge collaboration platforms allow this level of connectivity regardless of the variety of systems, messaging standards or IT maturity of the trading partners in the supply chain.

Such a platform can help keep 'buy-side' and the 'delivery-side' activities fully co-ordinated via a 'control tower'. The control tower manages and oversees the complete project cycle, from planning, fulfilment and invoicing to reconciliation. In addition, the system alerts and flags issues in real time before they become full-fledged challenges and delays. The platform can become the cornerstone for water utilities keen to outperform the AMP6 business plan^{iv}.

Proven solution in other sectors

This solution has been proven in other sectors with similar challenges to water utilities in the delivery of capital programs. For example, in the oil and gas sector critical processes must be kept running for production as well as ensuring critical asset maintenance, refurbishment and replacement processes are fully aligned with production and service plans.

In such industries, a "Track and Trace" solution has been deployed, fully integrated with Planning, ERP and PLM systems between partners and across a range of highly productive platforms including mobile, web and fully delivered in a cloud based infrastructure.

This enables major oil and gas players to increase their productivity across the complete end-to-end supply chain, reduce their working capital and obsolete inventory as well as increase on-time and on-budget fulfilment for capital projects.

Similarly, the aviation industry has benefited from cloud-based supply chain collaboration platforms. These have been implemented to coordinate the on-time delivery of major components from across the globe into the main assembly line of the last generation of long haul airliners.

Benefits of a supply chain excellence platform

The benefits that utilities would gain from adopting this type of solution are wide-ranging. These gains include the ability to address some deep-seated issues the industry has traditionally found difficult to optimize and manage:

- Deferment avoidance and higher on-time asset commissioning ("first water on time")
- More "Time on Tools" (less idle and waiting time for crews)
- Less expedites and reordering, lower inventory levels
- Lower HSSE^v exposure
- Increased "Up Time" for on-going production environment
- Efficiencies and focus on project execution
- Complete visibility to multi-tier supply network (materials, equipment, skills)
- Improving operational service resilience (for security of supply)
- Superior communication, coordination between partners (smooth orchestration of project)
- Enable suppliers to respond to project or market changes immediately (especially useful when lead times are short)
- Ability to perform exception-based scenario simulations (can recover schedule time)
- Easy on-boarding of partners and suppliers (regardless of their technical capabilities)

Our research has shown that significant benefits, as described above, have the potential to help a water utility reduce the cost of their capital projects by few percentage points, whilst improving customer satisfaction and minimising penalties for late delivery.

Win-win for all

A strong underlying factor that will propel success is the fact that water utilities will benefit from a supply chain collaboration platform and so will their partners. There is a desire on both sides of the delivery process to stay in control of projects and become efficient in the way interactions are managed between partners.

Water utility partners and suppliers would gain from visibility into emerging project needs and delivery schedules. They would be able to improve procurement and minimize logistics costs. If collaboration and analytics can provide value to planning and delivery, such a platform would be a win-win for every actor in the capital delivery program.

References

- i Source: Ofwat, page 2 of transcripts from “2014 price review investor conference call on final determinations” held on 12 December 2014.
- ii AMP6 is Ofwat’s most recent 5-year Asset Management Programmes or regulatory periods. It will determine the course of UK water utilities for the period 2015-2020.

- iii Figure 1, provided by E2open, leading provider of cloud based supply chain collaboration software.
- iv The platform can be extended to production processes when required. It can then be deployed to reduce the inventory costs of chemicals, spare parts, consumables and aggregates.
- v HSSE stands for Health, Safety, Security and Environment.

About the Authors

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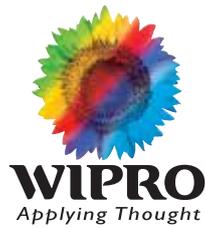
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