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Utilities: Putting the Customer First

Let’s Get Digital!

A select group of 15 utilities and energy CXOs attended a virtual roundtable to hear industry insights from special guest speakers; and explore the potential for new technology to mitigate challenges and deliver a hyper-connected, customer-centric future for their organisations. Hosted by Wipro, Google Cloud and 6 Degrees Media, the robust discussion was moderated by journalist, Brad Howarth.

Guest Speakers – Top (left to right): Journalist and Moderator, Brad Howarth; Wipro's Vice President of Energy, Natural Resources and Utilities, Rajpal Gohar; former Sydney Water General Manager for Digital Business and CIO, George Hunt. Bottom (left to right): Google Cloud's Industry Lead for Energy, Manufacturing and Mining, Craig Ojczyk; Monash Energy Institute Director, Associate Professor, Ariel Liebman.

It used to be that utilities companies could devote most of their energy doing what they have traditionally been expected to do – delivering the community with essential services including electricity, water, gas and waste management. But over time, it has become apparent that there are many other factors that will contribute to their ongoing success.

High amongst these are environmental concerns and the need to ensure their services are delivered in the most sustainable way possible. Utilities also find themselves being assessed by customers on the quality of the experience they provide, in addition to the service itself. At the same time, many find themselves being disrupted by external factors, such as the emergence of new digitally born competitors.

All of these factors have combined to drive the need for transformation in the utilities sector. For CXOs, this presents a challenge in terms of knowing how best to respond.

George Hunt has significant experience in charting the course for utilities companies in transformative times, being the former General Manager for Digital Business and CIO for Sydney Water – a role that also saw him named by *CIO Magazine* as its CIO of the Year for 2018.

"When we look at history, I think as utilities we tended to do our own things and respond to the things that we cared about," Hunt said. "There are some common challenges and opportunities we all care about, like safety, wellbeing, cyber protection, culture, talent acquisition and so on.

"But when we look at the sector today, citizens are expecting much more, and so are regulators and shareholders and investors. They're looking for outcomes that enhance the environment in which we live and work."

This was a problem recognised by many attendees at this virtual roundtable – and one compounded by budgetary pressures that put constraints on research and innovation. For example, the head of commercial and industrial at one energy generator suggested a gap existed between what customers want, and the products and services that utilities provide.

"One side is driven by the consumer and their lifestyle and improvement of that, and the other is driven by the initiatives that are focused on profits. How do you shift that paradigm?"

This might include better management of waste, or greater investment in renewables, or development of smarter infrastructure for improved service quality.

"We're moving away from those traditional power and water businesses and becoming smart resource businesses that contribute to the realisation of truly smart cities," Hunt said. "Collectively, we're seeing utilities all over the world respond to this type of opportunity. That's really exciting for anybody involved in this sector at this time, especially if we embrace the opportunities that digitalisation and connectivity can offer to make this happen."

Mitigating Challenges Through Emerging Technology

Numerous technologies have emerged to help CXOs transition to this digitized future, encompassing Internet of Things (IoT), edge computing, digital twins and more.

"They're potential real game changers for us in this sector," Hunt said. "The goal is to find a good use case and prove it. At Sydney Water, we found a number of good use cases around environmental management, such as sensors in sensitive sewer networks in National Park areas. That got to the heart of the organisation.

"So, find a good use case, and prove it."

While many technologies can play a role in bringing to life the vision of a next-generation utility, much of the discussion focused on the need to make sense of the huge volumes of data that utilities now have access to.

According to the Director of the Monash Energy Institute, Associate Professor Ariel Liebman, many utilities were now investing in developing capabilities in artificial intelligence to reduce the time taken to derive insight from data, and then use this insight to drive better outcomes.

"It's one thing to get insights that people can look at, and it's another to then make decisions based upon that in fast timescales, so you don't have to have people always making decisions and pressing buttons." Liebman said. "But this is still an evolving area and I think there's a long way to go."

One example where progress could be seen was in the analysis of smart meter data. Liebman said the ability to collect usage data at five-minute intervals was leading some utilities to begin teasing out various new offers for their customers, including greater accuracy in billing and improved reliability with reduced maintenance costs.

He said in this way Artificial Intelligence (AI) represented an ideal technology for helping utilities understand both their infrastructure and their customers better.

Associate Professor Ariel Liebman, Monash Energy Institute

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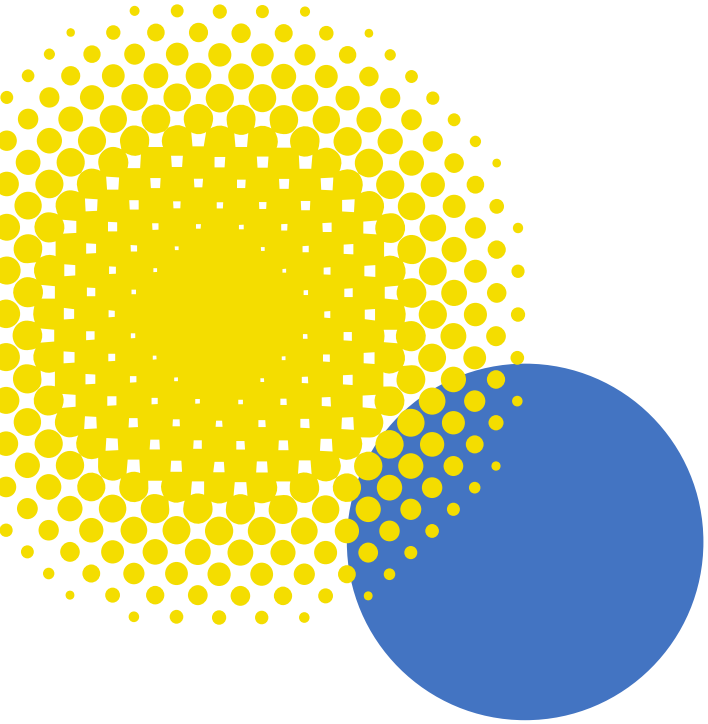

"Understanding customers means targeting to different customer segments and offering them better products, such as understanding what their behaviours are in response to various tariff signals," Liebman said.

"And then how do we actually use AI to model our networks optimally, so that we don't have to invest in other technologies?

"If we're going to meet customers' expectations that they will be able to put solar on their roof, and then plug in an electric vehicle when they want to, we need to be able to understand our network better and predict the demand on the network and the supply to the network."

Wipro's Vice President of Energy, Natural Resources and Utilities, Rajpal Gohar, added that the need to better manage data would only grow over time as the amount of data accessible to utilities grew.

"The amount of data which we are going to get in this world is going to double every year. Unless you have the right technologies, you will not be able to make use of the kind of data signals which are coming in," Gohar said.

"So you have to think about your data layer – how you are actually getting data from various sources, how you are ingesting it, and how you can convert it to meaningful insights for the customer."

He suggested that the need to access data quickly was also likely to drive interest amongst utilities companies in 5G technology, as a means of reliably carrying vast volumes of data securely.

"People need to realise that the amount of data they are going to get in next two to three years is going to multiply so fast with 5G, because the access to data will become so easy," Gohar said.

Emerging Technology in Action

One example of a utility that has embraced the transformation imperative is the US-based electricity generator and distributor AES, which had been working closely with Google Cloud.

According to Google Cloud's Industry Lead for Energy, Manufacturing and Mining, Craig Ojczyk, as of 2017 AES had realised the need to create a strong data strategy.

"They've now been able to leverage that data investment and foundation in machine learning to reduce hazardous working hours by 57,000 hours on an annual basis," Ojczyk said. "And they've seen tens of millions of dollars of bottom-line impact in terms of their predictive maintenance capability and so forth.

"What AES has done exceptionally well is create a mindset, and bring the business along that journey, so they're actually coming to the technology team with concepts and ideas that are based on machine learning, with a data driven culture to really unlock a lot of value."

According to Hunt, one of the primary challenges is for utilities to move beyond just putting digital veneers

on top of analogue businesses and expecting that to change their paradigm.

He cited one example of disruptive innovation as being Origin Energy's strategic decision to invest in Kraken, a customer billing platform developed by the fast-growing UK retailer Octopus Energy, as a means of fast-tracking improvements in customer experience and cost.

"The big challenge is how do we get digital at the 'heart'," Hunt said. "We've seen some other businesses start to make some pretty bold moves. I'm really impressed with what Origin Energy is doing with Kraken, which is a bold move to become a digital platform business and evolve from being a traditional energy retailer. That's going to make the industry sit up and take notice."

Customer-driven Innovation

Critical to making these projects work is the research necessary to ensure that what is being delivered is what customers actually want. With limited funds available for innovation, it is too late to wait until the end of the project to learn whether it will be successful.

The head of customer at a water utility described a scenario where his organisation had implemented a customer hub, using an agile project structure while undertaking significant research into what customers wanted, to get to a successful outcome.

"We were able at various stages in the development to test some of the products that we thought were going to be helpful with the real customers in the market, which then further informed the development that we took forward. It was very much a 'research and test' process with customers,

George Hunt, Guest Speaker

along the way of agile development with the technology partner."

Building a case for innovation can be even more difficult for companies that are not consumer-facing, such as network operators that do not include a retail function.

An executive managing the commercial strategy at one such organisation described a project where the innovation activity was directed towards supporting the retailers and how they engage with their consumers, such that the benefit for the network operator might be more reputation rather than financial.

"We co-designed with customers and with retailers what that solution would look like, and so we've taken that through several prototypes, and we're actually about to release that to market. It was challenging to establish financial benefits for it. This one is very much around reputation, customer, and brand benefits. There are other metrics that can drive financial benefits in the longer term."

Ultimately, however, according to Gohar, this notion of putting the customer at the centre could be best boiled down into two challenges.

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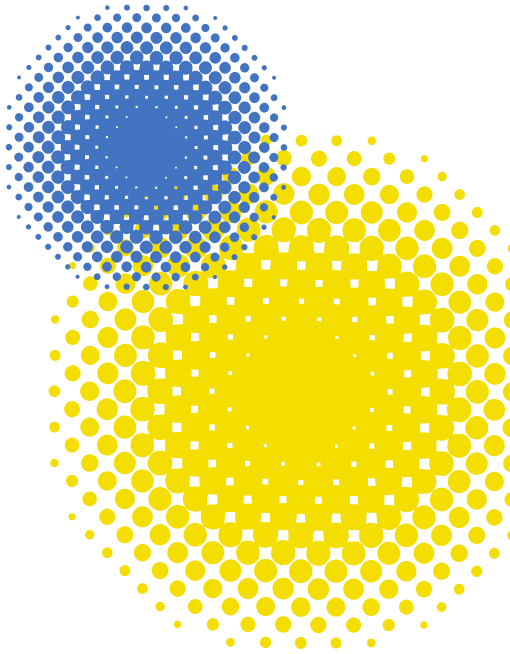
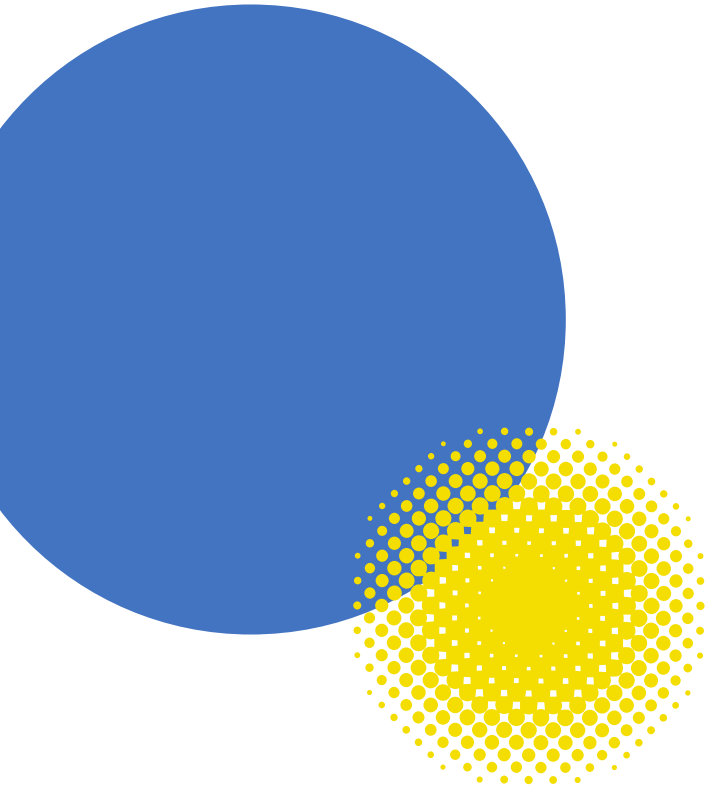


> When I worked with some utilities in launching a new offering or campaign, it typically took almost a six-month timeframe. Nowadays, it has shrunk to six weeks. – *Rajpal Gohar, Wipro*



"The first part of the challenge is that you have to take account of the changing consumer behaviour – and how it is changing on a daily basis. You can only do this when you have the right data ingestion platforms and the correct sources of data coming from various means," Gohar said.

"The second challenge is in how products have traditionally been defined. When I worked with some of the utilities in launching a new offering or campaign, it typically took almost a six-month timeframe. Nowadays, it has shrunk to six weeks.

"So that means you have to have some level of dynamism in how you define the product, and you should be able to take those market signals very quickly and respond to it. The data analytics platform has to give you that data immediately."

The Cloud Imperative

One of the key technologies that connects data to the analytics capability is cloud technology. But while the cloud has been adopted rapidly in other sectors, according to Gohar, in the utilities sector there had been various factors which have slowed adoption.

In the first instance Gohar said utilities found themselves pushing back against decades of heritage as engineering companies, and the realisation that many of their legacy systems had become obsolete.

He said overcoming this technical debt had been a significant undertaking, as was the building of business cases for where new investments should be made.

"For most technology adoption, the benefits don't come in until 18 months or 24 months, but you still have to deal with the daily budget," Gohar said. "That is a very tough ask."

At the same time, he said the naturally conservative nature of regulators was another hurdle to be overcome for those wanting to move to the cloud, and particularly the need to ensure customer data was secured.

"However, we're now seeing cloud adoption is increasingly high. In the last year alone, I would say that 30 per cent of the application landscape has changed."

Taking Steps to the Hyper-connected Utility

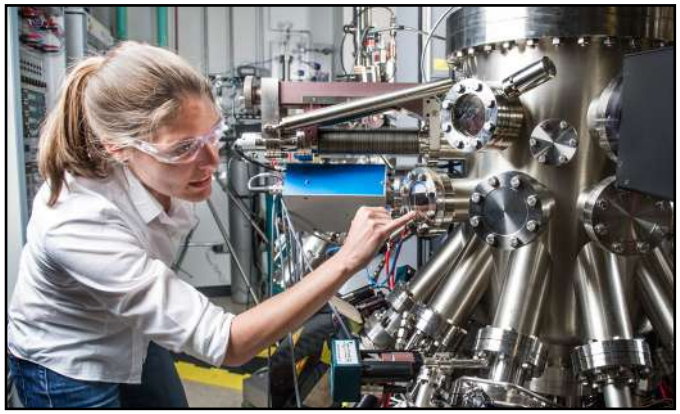
Ultimately, Hunt said it was important that CXOs who could see the need for change were courageous and took strides to enact their vision, even if it meant doing so in advance of what their organisation was ready for.

He also urged attendees to take advantage of the opportunities created by the COVID-19 crisis and the subsequent acceleration it had driven in digital transformation initiatives to carry their organisations forward at a faster pace.

"That's where it gets really exciting, because we're all very much more open minded to technology and what it can do for us," Hunt said.

"Which means that we're much more open to how we can incorporate that into our strategies and plans to make a difference for citizens, customers, communities, developers, and any other key stakeholder.

"The big challenge is, what do we do now? Well, the big opportunity also is, what do we do now?"



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Wipro is a leading global information technology, consulting and business process services company. We harness the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help our clients adapt to the digital world and make them successful. A company recognized globally for its comprehensive portfolio of services, strong commitment to sustainability and good corporate citizenship, we have over 180,000 dedicated employees serving clients across six continents.

About Google Cloud

Google Cloud provides organisations with leading infrastructure, platform capabilities and industry solutions. We deliver enterprise-grade cloud solutions that leverage Google's cutting-edge technology to help companies operate more efficiently and adapt to changing needs, giving customers a foundation for the future. Customers in more than 150 countries turn to Google Cloud as their trusted partner to solve their most critical business problems.

About 6 Degrees Media

6 Degrees Media was established by Angela Horvat, former Editor and Publisher of award-winning publications including *Computerworld, Information Age, My Business, The Who's Who of Financial Services* and Founder of FST Media; and Emma Charter, one of Australia's most connected and respected media and events strategists with more than 15 years' experience in delivering C-Level engagement strategies for clients in Australia and the UK.