POV

Cloud as a Catalyst for **Digital Transformation in Utilities**

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Majority of the Utility companies are still early in their digital transformation journey, as newer innovation around renewable & distributed energy is taking a center stage. Though bulk of energy systems still rely on traditional sources, the potential to tap into newer forms and scale in the market is exponentially promising. Regulations play a key role and come with two sides.

In one way, they help to protect investments, while at the same time, bring limits & control. It is pivotal for regulations to stay relevant with the players and their interests in shaping up the market, leading to open market and innovation, yet safeguarding investments. This cycle of technology innovation, market evolution and the value networks & services around it will evolve over time.

Interestingly, laying the right technology foundation accelerates the pace of unlocking innovation opportunities in this cycle to drive change.

Oppotunities in the evolving eco-system

Most utility companies have legacy systems, either built over time, or acquired via M&A. This presents the opportunity cloud-led modernization. The opportunities below explain the use case and how cloud plays a catalyst to this modernization.

There are five key opportunity areas:

Energy ecosystem:

Tapping multiple energy sources including traditional & new – distributed renewable energy resources moving the needle towards de-carbonization and efficient sources. **Relevance of cloud** – A robust API- driven IoT Cloud with dynamic scaling capabilities to accommodate the growing DER ecosystem will help real- time energy ecosystem availability.

Intelligent GRID:

Real-time monetization of energy on GRID with AI/ML-driven demand management via micro-GRID resources, driving new pricing and consumption patterns. **Relevance of cloud** – Co-relation and pattern discovery via scaled data lakes on cloud and AI/ML algorithms across consumption, priority customers, energy demand-supply, energy storage, market price will help build GRID capacity and intelligent GRID operations for monetization.

Large data sets, algorithms and prediction at scale leveraging cloud, are key for GRID capacity planning and intelligent operations.

Energy services beyond meter:

Market development with partners, aggregators, tech majors for energy services opportunities beyond meter for dis-intermediation and green energy. **Relevance of cloud** – Beyond the meter is about IoT devices, green DERs with an ecosystem of partners. Utility companies can tap this via IoT & API cloud connecting seamlessly with partners. The scale and volume of devices and data around it makes it ideal for cloud solution.

Consumerization of services:

Shifting focus to personalized services, energy offerings and self-service digital consumer experience. Priority and customized offerings based on consumer consumption patterns to open up new monetization opportunities and higher loyalty. **Relevance of cloud** – Ecosystem of partner services via APIs, new-age, cloud-native responsive apps built with UX principles, AI/ML@scale for personalized offerings at scale for consumers, makes cloud the obvious choice for innovation.

Efficient utility operations:

Streamlining processes, pro-activefield operations for maintaining assets, mapping priority zones, faster restoration of outages, scaling for large call volumes during outages, reducing operational costs and bringing agility goes a long way to get more

from less. **Relevance of cloud** – Efficient operations led by process digitization, AI/ML-led predictions for asset management, outage, etc, reducing operating costs on IT infrastructure, and resilient applications make cloud the most pertinent choice to streamline utility operations.

Cloud capabilities accelerates the transformation bringing agility, resilience and a host of features to monetize the opportunities.

Impact on utlity companies

The above opportunities present options to monetize not just for utility companies, but aggregators, partners, adjacent segments like telecom, transportation, and so on, and technology providers to develop their offerings and influence

market development. It is a unique opportunity for utility companies to participate, develop and influence pieces of the lego blocks of the ecosystem. It will determine their expansion, growth, ecosystem leadership and evolution of new business models.

Ecosystem development & monetization framework

Cloud is yet another technology enabler. It becomes equally important to foster innovation and engage partners, aggregators & tech majors to discover the marketplace engagement framework, digital WoW & monetization. Participating & building

such alliances and formulating the standards would be vital for driving ecosystem. Each player in the ecosystem will have an interest to have a fair de-regulated monetization opportunity.

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New innovation and business models bring their own share of watch-outs

Security & privacy
with more distributed energy on GRID, security & privacy are a higher concern.

Consumer adoption & behavior
based on offerings, pricing, value perceived.

Regulation & standards
delays in formulation of standards, newer regulations around asset accounting / capitalization rules for cloud investments.

The cloud thus brings key capabilities and opens a spectrum of opportunities to accelerate the utilities of the future.

About the Author

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Viswanathan has over two decades of exceptional track record leading transformation initiatives. He has been pivotal in driving strategy and execution for accelerated growth with disruptive thinking and innovation. At LTIMindtree, Viswanathan leads the Digital and Cloud Advisory function and advises CXOs and IT leaders on cloud strategy and transformation programs. He is passionate about innovation and how it translates to non-linear business outcomes

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