

Reshaping Energy Utilities' Business Models for Responsive Retail

Abstract

The energy industry, especially the retail segment, has largely followed a traditional value chain. Broadly, utility retailers procure energy from generators or producers, bill end-customers for their energy use, and provide additional services related to energy supply. Retailers also identify and aggregate consumers' energy needs and then advise energy generators on production forecasting.

Recently, there has been a marked change in how energy is produced. Instead of energy generation through fossil fuels, the spotlight is on distributed generation, which allows customers to independently generate energy through renewable sources such as solar and wind. The customer has therefore emerged as the supplier. In the context of this fast-growing trend, as well as several other predicted trends in the energy utilities industry, energy retailers can refashion their business frameworks to sustain operations profitably in a dramatically different future.

Three Ways to Navigate the New Customer Landscape

1. As more residential customers choose to generate their own energy, utility retailers increasingly need to sharpen their focus on other customer segments. This includes small and medium enterprises, and large commercial and industrial customers, who typically have higher demands and are unlikely to produce their own energy.
2. Alternatively, retailers may continue their current operations, resize their business, and venture into adjacent services, such as telecommunications, to drive up revenues.
3. The third option for energy retailers could be to focus on imminent market changes and explore modifications to the business model to capitalize on growing opportunities, and possibly earn higher revenues. This option allows the energy retailers' core business to survive in the long run and is the option to which we devote the most attention.

Seven Predictions for Energy Retail

Here are some possible trends that will emerge over the next few decades, pose challenges, and present associated opportunities:

1. There will be more energy generators, with an increasing overlap between who generates and who consumes. With a much wider base of producers, energy rates will go down.
2. Generation of a planned amount of energy based on expected demand will become difficult with increasing distributed generation. Utility retailers will need to develop a framework to ensure that energy requirements for a specific area are always met.
3. Reliance on fossil fuels will decrease. The cost of reducing the global carbon footprint will continue to evaporate.
4. Power generation will be disrupted more frequently due to rainy weather, low winds, and other such factors. Utilities can set up backup plants that use fossil fuel to meet any deficits caused by disruptions to solar, wind, or other forms of renewable energy.
5. New-age generators will try to achieve the highest price possible for the energy they produce, unless they consume it themselves. Any pricing model will need to take this into consideration.

6. The energy load on the grid will reduce as more people generate and consume their own energy. Moreover, reduced wear and tear of the grid will lower maintenance costs.
7. There will be a higher demand for energy storage by consumers who generate their own energy. Stored energy will gain popularity as a commercial product.

Utility retailers need to be prepared for these trends to take advantage of market opportunities, and charge a viable price for their services.

Strategizing for Future-Ready Performance

To translate opportunities into value for customers, utility retailers can explore the following methods:

- **A dynamic pricing model for buying energy** - With more consumers generating energy for their own use, or as a source of income, energy retailers will increasingly act as aggregators that set prices for the market. Without a uniform price, energy commerce would be subject to a lot of confusion, which may be unsustainable. Retailers will nevertheless have different pricing models, which will create price competition. These pricing models will be dynamic so that they can adapt to changes in consumption patterns driven by geographical, social, or other environmental changes.
- **A dynamic demand and supply forecasting model** - With the increasing likelihood of power unavailability due to unfavorable weather conditions, there will be an unprecedented need for utility retailers to forecast not only the demand but also the supply within the distributed energy ecosystem, to assess how much energy they must procure. Towards this end, utility retailers will have to develop accurate forecasting models that account for faulty systems that reduce availability and increase demand, and adopt a more granular focus on climate changes across geographies.
- **Backup plants** - There will be an increasing need for backup plants to meet energy demands when the distributed generation units do not work, either because of system faults or unfavorable climate conditions. As the backup plants will have to be more reliable than solar power or wind power, the obvious choice appears to be fossil fuels. However, there is still room for innovation in this area and opportunities with sources like hydro-generation can be further explored.

A leading bank applied the top-down analysis approach to identify areas that needed intervention across various LOBs in order to improve its cost-income ratio. 900+ processes were studied, covering 85,000+ FTEs. The top 125 processes were considered to define a holistic simplification program. The bank identified high cost functions such as collections and underwriting, broke down the cost at each level, and identified 5–7 cost centers with the highest spending. Subsequently, it was able to link them to the processes that were accelerating the costs.

- **Energy storage technology** - With the increasing need to store energy either for commercial purposes or for use at times when the generating systems do not work, the demand for effective and affordable storage technology will rise. While energy storage technology is already an active area of innovation, it has still not advanced to a stage where we can carry energy units powerful enough to supply household power needs in our pockets.
- **Logistics support** - The grid may gradually become dispensable, especially with the evolution in energy storage technology. This could result in a situation in which some areas have surplus energy, while others face a power shortfall. This calls for a centralized platform that allows energy retailers to see where surplus energy is available and buy it online, thus making energy available wherever needed.

Overcoming Challenges in the Way of an Energy-Efficient Future

To be ready for the future, energy retailers will need to rise to the following challenges:

- **A paradigm shift in the business model** - There will be a radical change in the way utility retailers currently operate. The sooner energy retailers implement a new business model and start to scale up, the better prepared they will be.
- **An unprecedented need for investments in technology and analytics** - Utility retailers have been investing in technology predominantly for customer service. However, with customers inching into the supply space, there will be an increasing need for technology interventions in GIS mapping, forecasting of energy requirements and availability, mapping of faulty systems, logistics support, and ecommerce, among others. Utilities organizations can consider partnering with technology firms to enable effective, faster transformation..

Conclusion

While it might appear that utility retailers will become redundant with customers self-sustaining their energy needs, there is also an increasing element of uncertainty associated with distributed energy generation.

Energy retailers in the new world will have to take center stage in a distributed energy ecosystem, and meet energy requirements when they are not available through the newly popular resources. With increasing interest in renewable energy sources, utility retailers should also be able to reduce the global carbon footprint and the large costs associated with it.

About The Authors

Arvind Khemka

Arvind Khemka is a Utility Consultant in TCS' Business Process Services unit. He has over 11 years of experience in the utilities industry spanning multiple roles across business analysis, knowledge management, business solutions, and transformation.

Contact

Visit TCS' Business Process Services page for more information

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