



# Transforming Distribution Utilities

Digitizing the Core

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## Abstract

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The marketplace is currently abuzz with reports of Utilities initiating digital transformations and of service providers drawing up digital roadmaps and offerings. Most of these changes are geared towards the customer end of the Utilities business the retail segment, primarily in the form of establishing Web and mobility front ends and setting up a social footprint. Process automation, digital device integration and usage of advanced analytics are what Distribution

Utilities are moving towards. However, there is need and scope for a more pervasive and deeper digital engagement at the distribution level.

With introduction of smart meters, distributed generation and electric vehicles, distribution business is expanding beyond the core engineering part of operations and embracing more customer and market-centric processes. To manage this transformation efficiently and stay ahead of the curve, there is need and scope for a more pervasive and deeper digital engagement for Distribution utilities. And that must go beyond cosmetic changes involving social, web and mobile to ensure lasting impact.

## Customers Steering the Change

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For the past three decades, Distribution Utilities have been taking digitization initiatives. Every time a business process is automated, it is an example of digitization. The use of Internet has digitized our way to communicate and interact. In Utilities, the use of smart devices and sensors is digitizing the operations and greatly improving the operating parameters. So, what's new or different in today's digital revolution?

The answer lies in being increasingly customer-centric. Customers today are very different from what they were even five years back. Today's customers need to access information anytime and anywhere, they seek instantaneous responses and closures to queries and issues. Anything that is not handled within a finite time

window gets a natural burial. This shift in behavior and mindset of the customers is enabled by technologies. And this change is fundamental and accelerating.

The wind of change is, therefore, coming from the customer's end and will require organizational overhaul to manage and ride the change. While the retail part of the Utilities' business is the first to be impacted, distribution will soon have to follow suit. Digitization needs to be taken across the value chain of the Utilities' business. Digitization efforts should go deeper beyond Internet, mobility and social media to integrate better with all parts of the Utility value chain so as to align with the changes in consumer behavior.

# Deconstructing the Digital Character

A look around your surroundings will give you an idea of the level of digitization. And there is no denying the customer centricity of this phenomenon. Distribution Utilities need to turn to digitization for the same reasons of managing customer expectations, reducing costs and increasing revenues. Digitization gives the ability to keep customers engaged and satisfied -- a key criterion of process success, transparency and process cost.

Let us take a look at the key areas of the distribution business that digitization will have an impact on and how Distribution Utilities can reap its benefits:

## • CUSTOMER INTEGRATION

Distribution Utilities are increasing their interactions with end-customers. Apart from new power connection requirements, other processes like outage communication, demand management and integrating distributed generation are coming up that require direct interaction with customers. The process digitization exercise should, therefore, focus on,

Customer integrated processes that should be accessible anytime, anywhere. The business processes around outages, demand management, energy efficiency and distributed generation need to be redefined with the customer in mind. The customer needs to participate actively at multiple levels of the process flow -- accessible on mobile, Web and social media to provide aggregate view of their preferences.

Such integration of customers in the process chain also has its challenges since expectations have to be met within a stipulated time else it leads to negative feedback. And when it happens over social media, it gets more magnified.



## • PROCESS AGILITY

Customer behavior and market dynamics are changing so fast that Utilities don't have the luxury of taking months or years to rollout new processes related to demand management. New process rollout should now happen in weeks rather than months. Similarly, older processes should be rolled back quickly and related data stored for analysis. An industry accustomed to slow change will find it difficult to cope with this unless aided by careful design and appropriate systems.

New age processes cut across traditional boundaries of generation, distribution and retail. While smart outage management requires retail and distribution business to work together, dynamic demand management and balancing/trading requires all segments to work in unison. Ability to cut across organizational and departmental boundaries will allow customers to seamlessly communicate with relevant entities (where is the outage or the current market price to participate in trading). Interruption in seamless information flow will only frustrate customers.



## • OPERATION IMPACT

Can the core distribution operation process be impacted and revolutionized by digitization? The processes we discussed around outage and demand management are core operational processes that are getting integrated with the IT world, and are significantly impacted by digitization. Advanced analytics on digital sensor data provides insights into asset health, near real-time operational status and options for possible actions to improve reliability and safety. Digital can greatly enhance our ability to respond to emergency scenarios by quicker localization of faults, community engagement of customers and systemic restoration. This is the traditional engineering-centric digitization that lies outside the influence of customer centricity.



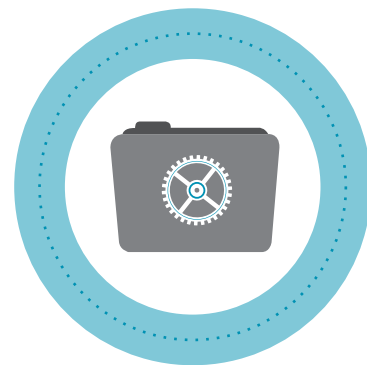
## • COMPETITION

The changes in the utility business are opening up opportunities for new players like Energy Service Providers (ESPs) offering innovative products that result in lower consumption and reduced costs to customers. These ESPs are starting to own part of the utility processes and are taking away the customer relationships. DR aggregators, DG providers, telecom providers and operators are some key examples. The Utilities are eventually losing ground to the new entrants -- the ESPs, who are working directly with the customer to provide energy solutions. Digitization is allowing ESPs to effortlessly reach out to customers, offer innovative products and solutions and, in the process, scrape away from Utility revenue. Unless Utilities match capabilities of the new entities they will continue to lose business and control over their own territory.



## • NEW SERVICES

Can Utilities look at providing additional services to customers? As telecom companies are trying to get into the Utilities space, can Utilities look at options to expand? With dedicated last mile connectivity, with information about customers and access to their usage patterns, new services can be rolled out like community information and collaboration, selling additional services like equipment repairs and damage insurances. Utilities, in turn, can start becoming aggregators of such products and be the conduit to the insurance or repair service providers.



## • NEW EMPLOYEES

How can the daily work of the operators keep pace with the digital aspirations of employees? Can they access the operational processes from outside control room in a secure way? Can they collaborate seamlessly with other utilities to exchange best practices? How can they utilize social media or other digital platforms to garner community opinion, suggestions and to make decisions? How quickly can they ramp-up knowledge without having to go through long, traditional classroom trainings? New employees will be expecting these capabilities and the absence of these will make it difficult to retain their interest.



# Utilities at the Digital Crossroads

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Businesses today are benefiting from digital advances and Utilities are not to be left behind in this pursuit. Distribution Utilities too will benefit by laying out an overall digital plan to improve their operating parameters and extend their business footprint. Customers will increasingly play a key role in shaping their business processes. Digitization will help the Distribution Utilities stay relevant and take advantage of changes in technologies.

## About the Author

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### Anjan Lahiri

Anjan Lahiri has over 20 years of leadership experience in delivering innovative and pragmatic solutions to global Utility customers. He has a proven track-record of winning and delivering large and complex business transformation solutions for Utilities spanning across Work and Asset Management, Operations Automation, IT-OT Integration and Market Interaction through Business Process Re-engineering, Productized and Customized solutions and Advanced Analytics. His areas of present interest include developing new insights using smart meters and device data through Advanced Analytics, investigating impact of DG on Distribution Operation, etc.

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