




How well do you think “Chasm-crossing” theory fits our industry, and what are the bad consequences of “force-fitting it” where it does not belong?

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Meet the Author:

An IEEE Fellow, electricity industry visionary, and leader, Dr. Mani Vadari delivers strategic services to a global set of utilities, vendors, and service providers seeking deep subject matter expertise in setting the business and technical direction to develop the next-generation electric/energy system. As a Business Architect, Dr. Vadari has been delivering solutions focusing on Transmission/ Distribution/ generation operations, Energy markets, and Smart Grid for over 35 years. In addition, he is an Adjunct Professor at Washington State University and an Affiliate Professor at the University of Washington. He has published two popular books, “[Smart Grid Redefined: Transformation of the Electric Utility](#)” and “[Electric System Operations – Evolving to the Modern Grid, 2nd Edition](#)”, in addition to over a hundred industry papers, articles, and blogs. His books are serving as textbooks at several universities in the US and around the world

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Chasm Crossing and Force Fitting – these are powerful terms that if you ask ten people to define, we will get more than 20 answers – especially when it has to do with taking lessons learned from one industry and applying it to another. Many times, I am sure you will get one “for” and one “against” from the same person.

Why is that?

I have said this before and here is how it goes. The electrical utility has done such a good job that for the most part, the world over thinks that the power comes from the two (sometimes 3) holes in the wall and they are generally clueless about what happens anywhere behind that. Our industry has done such a good job that our devices (laptops, lamps, cell phones, and most everything) work the same whether they are plugged into the wall at our house, at our office, or at the airport. The utility bill is also for the most part a very small portion of the monthly budget for most people (at least in the US and Canada) that most people do not think much of the utility and/or electricity. The cost is so low that when you connect to a plug point at a facility outside of your home, it is free – they don’t even charge you for it.

So, for the most part, most people do not think of electricity or the utility providing it. The only time, someone even thinks of the electric utility is when the power is off – and then of course, the electric utility is the devil incarnate. So, am I saying that the electric industry is boring??

Actually yes – boring, only because it is always there and the cost is reasonably low. This low cost comes from an unerring derived by utility personnel to deliver a product that is so ubiquitous and most importantly, by the fact that the devices installed by them tend to last for years and years. An example of this is a factoid from DOE – The average lifespan of a transformer installed in the US is about 40 years and the average age of the transformer in the US is 42. If these things change – so will the cost structures for our industry – this means that our power may no longer be as cheap as it is.

This also doesn’t mean that there is no innovation in our industry – remember the early days of ARRA? It was like the internet days of the early-to-mid 1990s when everything was internet this and web-that. Where are all of those companies – most of them went the same way as the plethora of companies that showed up around 2009 and so on. However, not all of the work they did went to waste – some of them, products such as the HEM (or the Home Energy Manager) died and probably should have died anyway. But the lessons learned from the user experience from those experiments are showing up in new devices from Nest, Honeywell, and some of the energy-managing apps on our smartphones. Other products such as the Volt-Var controller survived and are continuing to deliver value to our industry.

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So what can we conclude from this?

These points made above are very important to take into consideration as we make comparisons with other industries. Each industry will innovate at its own pace especially when it is regulated. Our industry will change more when new technologies such as storage and DERs become more ubiquitous (and cheap) allowing the customer to make more decisions independent of the incumbent utility and other market-based players can jump in and provide more options to them – either independently or bundled with other services.