

Dec 10, 2014

Short paper on Stimulating new Smart Grid business based on emerging technological opportunities

“In new markets, uncertainty about how technology, business models, and demand will evolve is often high. With fragmented demand—that is, with a very large number of users—it can be difficult for prospective users to communicate their expectations regarding the long-term outlook for a network and coordinate their behavior.”¹



Introduction

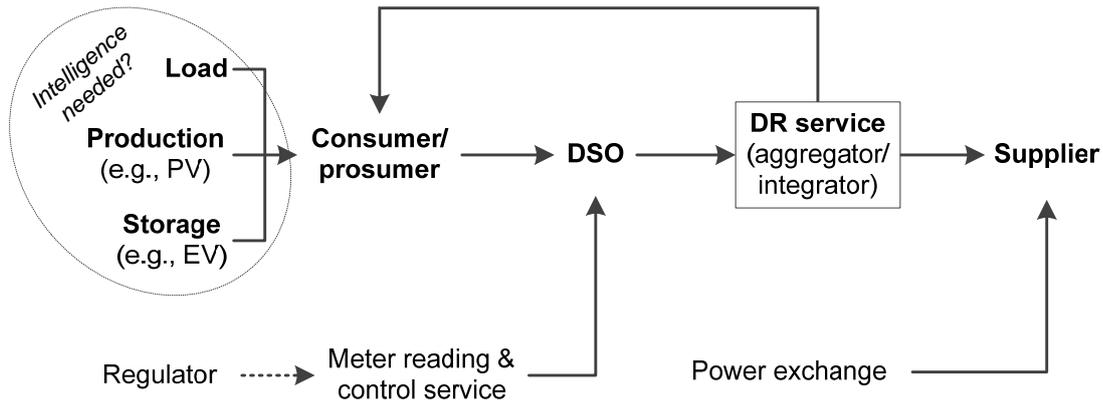
The behavior that above quote represents is called as “Penguin effect”. It refers to a situation in which there are many penguins packed in the edge of ice floe but no-one wants to be the first to dive into the sea – because there might be leopard seals or killer whales waiting. In a similar manner, enabling new business based on emerging technologies in the Smart Grid environment has been rather stuck because two reasons: either pioneering firms have been ‘too early’ compared to markets or in some areas several firms have been awaiting each other to move. Secondly, igniting new businesses may require new type of thinking also when it comes to business models and their design. Previous business models where a consumer is the end-customer in the smart grid business seem to have some obstacles to take place in practice. For instance, it has been recognized that the balancing the demand requires that a consumer must allow an electricity company to control the load, however the emerging cost savings for a single consumer are very minimal thus not giving enough incentives to act. Even though the network effects are remarkable and may return many good things to a single consumer (e.g. more stable network, or lower electricity price at peak times), it is too vague benefits and do not lead in changes of the consumers’ behavior. In this leaflet, we propose a possible solution to overcome these obstacles.

Ecosystem approach to business models

Business ecosystem helps the management to see the wider picture of business environment and to design value creation and capture processes in the business environment. By mapping all participants which needed to contribute in value adding process to the end-customer, the logic of value creation becomes visible. Inclusion of so-called complementors (i.e., firms which are needed to enable value creation without having direct business relationship between parties) offers new insight to business ecosystem mapping. The picture² (see next page) illustrates how an ecosystem around demand response (DR) can be established. This demand response ecosystem creates value to the electricity supplier for whom DR service provides value. Furthermore, active consumers’ role is to provide their electricity use information to the distribution system operator (DSO). Policy-makers have an important, enabling role here when it comes to legislation changes and other supportive actions that have been needed to initiate meter reading & control services. This illustration of the ecosystem is called as *value blueprint* that forces to construct the entire picture around the innovation. Value blueprint maps a firm’s ecosystem and its dependencies on suppliers, intermediaries, and complementors. There are five different options how to modify the ecosystem structure: relocating, bundling, combining, adding, or subtracting elements. Reaching a viable business ecosystem will require several iterations and validation in real business context.

¹ Eisenmann, T. “Platform Mediated Networks: Definitions and Core Concepts”, Harvard Business School, October 2007

² DR ecosystem example, see more at: http://www.slideshare.net/CLEEN_Ltd/developing-viable-ecosystems-with-smart-grids



Eight steps are needed to construct a value blueprint

1. Identify end customer (*it's not necessarily a consumer anymore*)
2. Identify your own offering (*what's the value you can offer to the ecosystem?*)
3. Identify your suppliers (*who are needed to make value creation and capture to happen?*)
4. Identify intermediaries (*who are needed to canalize your offering/value?*)
5. Identify complementors (*what are enabling factors e.g. in legislation?*)
6. Identify the risks in the ecosystem (*why this development would not happen?*)
7. Identify a viable solution for every partner unable or unwilling to cooperate (*check incentives for all*)
8. Update the blueprint on regular basis (*it's dynamic and represents just your evolving understanding*)

In addition, firms have to adapt and design new business models to retain a competitive advantage in their networked, dynamic environments. Value capturing represents a key challenge to current firms as their business models are typically more traditional, "selling goods" form whereas the new alternatives require, for instance, use-based pricing (i.e., pay-as-you-go) business models.

Recommendations

- Understand the logic and dynamic in energy system ecosystems
- Value blueprint offer descriptions of business ecosystems and show their value creation logic
- Ecosystem that can cope with changes (i.e., resilient ecosystem) needs flexible and dynamic structure in which multiple firms are competing with their offerings
- Ecosystems should not be formulated on single focal companies only but there should be enough actors together forming a critical mass that speeds up development and ensures internationally competitive offerings

For more information, please visit at

- <http://www.cleen.fi/en/sgem>
- http://www.slideshare.net/CLEEN_Ltd