A Design Perspective on Networked Business Models: A Study of Distributed Generation in the Power Industry Sector

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Approach

• Creation and analysis of new networked business models for the emerging case of distributed power generation in the electricity sector
• Design perspective: use e-3\textit{value} modeling approach
  – e-3\textit{value} developed and tested for e-commerce applications
  – \textit{Discover and evaluate emerging networked business models with e-3\textit{value}}
Trends in the electricity sector

- Reorganization forced by:
  - Technological advances: small-scale efficient generators are available on the market
  - Necessity: increase efficiency + reduce environmental emissions
- Characteristics:
  - > horizontally integrated market instead of a vertical monopolistic one
  - > new actors, value activities, and business scenarios emerge
  - > strong influence of regulation

New networked business models for the electricity sector

- Business model 1: **Renewable energy** in a highly regulated world
- Business model 2: Energy in a **deregulated** world
- Business model 3: Distributed generation to solve **shortage in distribution capacity**
BM1: Renewable energy in a highly regulated world

- Renewable energy: stimulated by subsidies and priority; Final customer is not stimulated to buy Renewable energy
- Advantage of distributed generation: does not require transmission
- Strong dependence on regulations: the model is not sustainable without regulation
Energy in a deregulated world

- Final customers can choose an electricity supplier
- No exceptions for renewable energy -> Alternative business models for renewables must be explored

Distributed generation to solve shortage in distribution capacity

Goal: To delay the upgrade of the distribution grid by providing additional (renewable) electricity generator

Situation 1: sufficient distribution grid capacity
Distributed generation to solve shortage in distribution capacity

**Situation 2:** buy *virtual* grid capacity from DG

**Keys to success:**
- Agreement of producer
- Guaranteed delivery of *virtual* grid capacity
- Refund in case of price difference of RES and normal electricity
- Reliable output of DG generator

**Conclusions and discussion**
- Structured approach for the common understanding of the business case by all stakeholders
- Graphical map of new business ideas
- Clarifies innovative value constellations
- Critical points and possible opportunities for quantitative analysis (the next step)
- Discovering of new business models
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