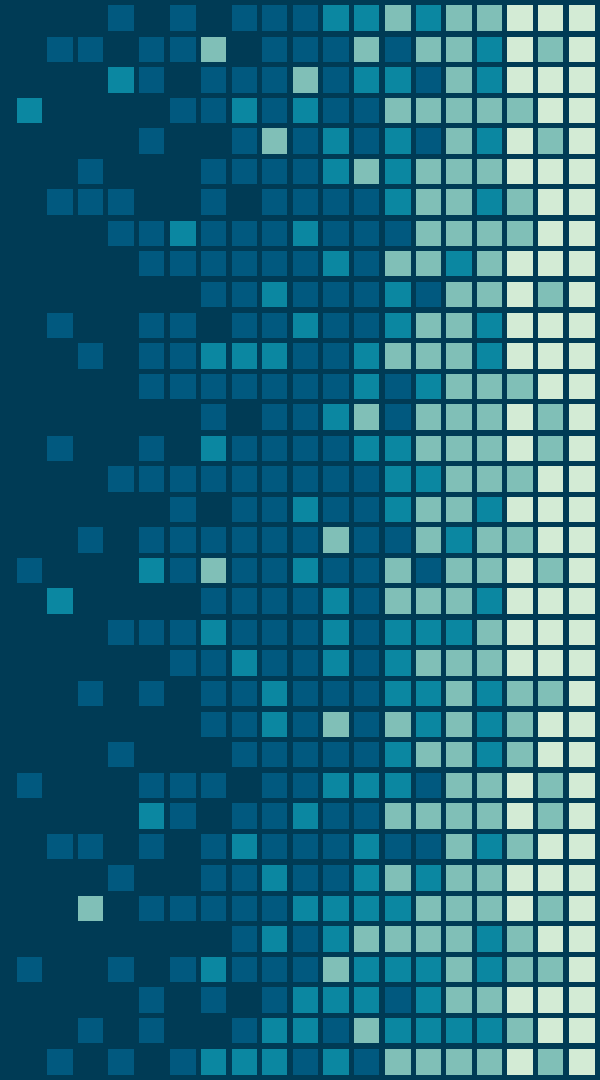


Blockchain Applications in Peer-to-Peer Energy Trading Marketplaces

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Blockchain Research Accelerator Event

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So, who's this guy talking right now?



Master Student at WU Vienna
CEMS Master in International Management

Background in Engineering & Business
Bachelor + Internships in Engineering Management
Voluntary consulting projects during Master

Interest in technology-focused sectors
Currently starting complementary education in
electric power sector and IT management

Thesis deadline in mid-October
Still time to implement changes!

The initial aim of the thesis was focusing on how P2P energy trading models could be feasible

Research question

Can blockchain contribute to enhancing efficiency in the energy market for private customers?

- Inefficiencies of the current electricity industry model
- Energy paradigm with increasing energy demand and limited resources
- Applied blockchain business models

Objective

Identify the characteristics of a successful P2P marketplace business model

- Comparison of distinctive characteristics of the business model
- **Attractiveness for implementation**



The key insight is that P2P energy trading models for private customers is not cost-efficient

| OPPORTUNITY/ POTENTIAL BENEFIT | |
|---|---|
| Wholesale energy trading  | <ul style="list-style-type: none">– Reduce transaction costs in wholesale energy trading |
| Retail electricity markets  | <ul style="list-style-type: none">– Reduce variable costs of retail payment processing and accounting– Greater transparency into billing– Fluid energy contract entry/exit– Greater customer choice of energy supply |
| Peer-to-peer marketplaces  | <ul style="list-style-type: none">– Relieve stress on transmission networks– Improve DER economics– Greater customer choice of energy supply |
| Flexibility services  | <ul style="list-style-type: none">– Improve TSO ability to balance supply and demand |

Initial approach - Disruption

P2P marketplaces was the most disruptive and social-focused BM

Reality – Not profitable enough

Experts make clear that P2P exchange by itself in countries with already well-developed infrastructure is not cost-efficient **for residential customers**

ONLY in countries with unreliable infrastructure or some isolation situations

My goal is a guideline of attractive energy blockchain BMs that is actually useful to electric companies

Problem? Approach to the topic

Fallen into the hype of blockchain!

The approach is not cost-effective

Some lack of strategy knowledge

Focus on real challenges of electric companies

Blockchain-based BM that is reasonable

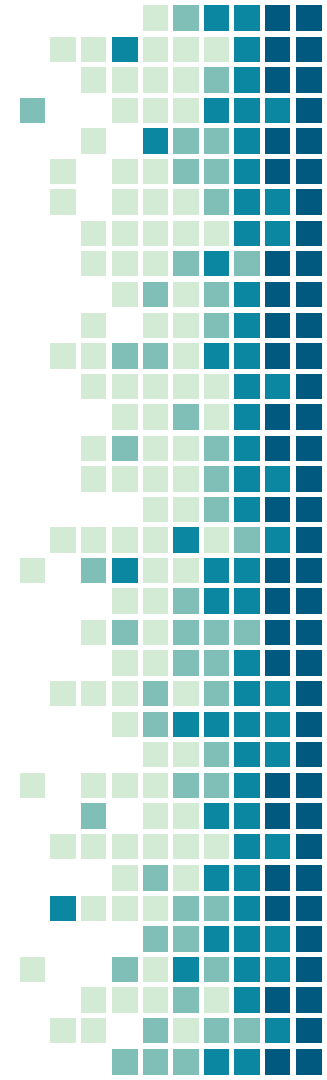
Should I keep focusing on P2P, or try to focus on wholesale / retail markets?

Contribution from BRA

Key essentials & considerations of utilities BMs

Approach of these companies towards disruptive innovation management

Decisiveness of blockchain in reshaping the current energy model



The lack of conclusions in energy blockchain projects makes it very difficult to obtain success factors

Problem? Research structure

Lack of results in the energy blockchain projects

The projects seem to be too recent to show clear successful or unsuccessful factors

Unclear approach to theory

Is it possible to develop theory this way, or should I focus on organising and syntetising?

Again: Some lack of strategy knowledge

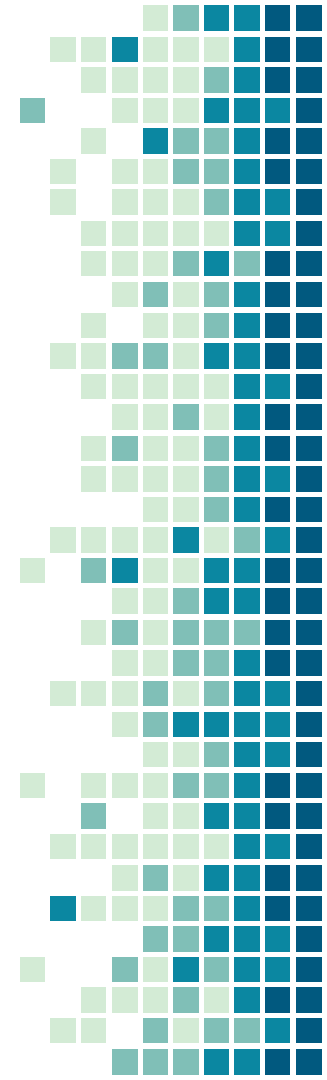
What frameworks / analyses would make it easier for the company to understand the attractiveness of blockchain?

Contribution from BRA

Projects with clear results and/or alternative approaches

Suitability of inductive / deductive approach

Suitability of BM and BE Canvas (Osterwalder) as a reasonable guideline



Thank you so much
for your time!

