

A close-up photograph of industrial pipes. The pipes are dark grey or black and have a yellow, ribbed insulation layer. A red cap is visible in the foreground, partially covering one of the pipes. The background shows more pipes and some green grass.

Tools for new and improved business models in District Heating

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Today, yesterday and tomorrow

1. Challenges facing Swedish DH companies
2. What is the explanation behind the Swedish DH success?
 - a) DH Business model and its historical context
 - b) Why recent changes has weakened its competitive strength
 - c) Important characteristics defining changes within “business as usual”
3. To handle the challenges facing Swedish DH companies
 - a) Industrial services –a way to success?
 - b) How to deal with wicked problems in DH
 - c) Critical success factors when handling wicked problems

Challenges facing Swedish District Heating companies

Changes in policy and regulation regimes

- A priori screening of price changes
- New policy instruments and EU directives
- Limitations for municipalities to engage in sales of energy services

Lower heat demand

- Energy efficiency
- Low heat demands in new buildings
- Heat pumps with higher efficiency
- Few new customers
- Climate change

Customer demands

- Customer influence
- Climate & environmental demands
- Low level of trust
- Environmental benefits questioned

Cost structure

- Large fixed costs
- Large re-investment needs
- Increased fuel prices, e. g. wood chips and solid waste
- High equity cost

The Business model -a story in four parts

- Customer Value Proposition
 - Detailed description of: the value being offered, for whom, how it will be delivered, partners and pricing model.
- Production logic
 - Detailed description of what processes, physical resources and intellectual capital are used.
- Profit formula
 - Detailed description of how profits are generated and how they are shared.
- Competitive Advantage
 - Detailed description of the processes, physical resources and intellectual capital that secure necessary capacity to change in order to create a sustainable competitive advantage.

The traditional business model explains the success for Swedish DH

Customer value proposition

Customer value proposition

Production logic

Production logic

Profit formula

Profit formula

Competitive advantage

Competitive advantage

Weakened competitive strength

Customer value proposition

- Important product features are less unique

Production logic

- Harder to build business on resources with low alternative value

Profit formula

- Weak, absent or negative growth of demand increases risk

Competitive advantage

- Mature systems have less obvious advantage of owners with systems perspective and long term focus.

What are the important characteristics of changes within existing business model

- Future changes will be characterized by the prevailing technical competence and engineering culture
- Hardened competition in both factor- and product market
- High market penetration and a homogenous product with limited prospects for differentiation
- Less “value driven” and more “for profit” corporate governance

This explains why DH companies focus on efficiency measures rather than differentiation. Differentiating mainly through extended service offers

Focus on efficiency measures and extended service offers is nothing unique. Similar development have been observed in industrial services.

Extended service offers as a way to increase customer value?

- A first step to getting closer to the customer but usually focus on standardized services with little focus on customization.
- This development has weak linkages to DH challenges.

- The advantages of the business model were based in a situation that no longer exists. Instead prevailing business model enhance the challenges for DH companies.
- The size and complexity of the challenges calls for significant changes of the business model

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The business model must be able to handle “Wicked problems”

Wicked problems has a very complex nature

- Every problem is unique and contextually grounded in a certain place and time
- When not dealt with, complexity increases over time
- Problem definition is different for different stakeholders
- No “right” or “wrong” way to handle them
- Usually only one shot when addressing them
- Success always involves negotiations and is characterized by compromises

How to deal with wicked problems in DH

Needs inclusive processes when designing:

- Customer dialogues about all four aspects of the business model
- Pricing models
- Energy efficiency projects
- Distribution networks and production plants
- Policies for distributed production
- Urban development projects

Critical success factors when dealing with wicked problems in DH

- Apply a broad definition of value creation
- Extensive stakeholder competence
- Organizational platforms for action (arenas) that promote dialogue and collaboration
- A corporate culture allowing existing engineering dominance to be challenged by new types of "heroes".
- Dynamic capabilities and double loop learning