

# Tools for new and improved business models in District Heating

Anders Sandoff

School of Business, Economics and Law  
University of Gothenburg

Euroheat and Power, Copenhagen, April 2012

# 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 propositon

Customer value propositon

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

# 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 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