

Kristina Lygnerud

DISTRICT HEATING AND THE CHALLENGE OF INNOVATION - A CASE STUDY OF RESIDENTIAL HOUSE DISTRICT HEATING INVESTMENTS IN SWEDEN

School of Business Economics and Law at Göteborg University, Sweden
E-mail: kristina.lygnerud@handels.gu.se

Overview

Traditionally, the Swedish district heating customer has been a professional counterpart consuming large quantities of heat and hot water per annum. Providing private customers with heat is in many ways different from servicing professionals. Detached residential house areas require more manpower and result in larger distribution losses of heat than traditional district heating investments do. In combination with smaller amounts of heat consumed per annum (a residential house customer consumes less heat per annum than a professional customer does) these aspects erode the profitability of residential house investments and make them less attractive to district heating providers than traditional investments.

The current government in Sweden has the ambition to achieve sustainable development. One important piece in this work is changing the energy system (from extensive usage of fossil fuels to more sustainable options). In this quest, it is of interest to expand the usage of district heating. District heating makes use of local fuel- or heat assets that have no alternative use and would otherwise be wasted (such as residual heat, incineration of waste and wood chips for example). Additionally, non-fossil fuels can be used to make district heat. Thus, it is in the interest of the industry of district heating as well as in the interest of the Swedish government to expand the market segment of detached residential house district heating. This study has been undertaken in order to assist in the process.

Method

This study revolves around three sequential areas of activity in residential house district heating investments. Those were identified when conducting a pilot study. The first area is related to the business logic of residential house district heating investments (entailing planning and organization of the investment). The second area encompasses sales and customer related activities and the third is related to activities of construction/ technology. To shed light on how innovations in residential house district heating investments create value a model of analysis has been built. It is based on the findings of the pilot study, aspects from theory on value creation as well as from theory on innovation. Applying the model on to the collected data (three case studies were made and data were collected by in-depth interviews) twelve innovations have been identified. Analyses of these have resulted in new knowledge on detached residential house district heating investments by describing those at depth.

Results

The findings of this study imply that Swedish district heating providers, engaged in detached residential house district heating investments, can reduce the costs associated with the investment and/ or build resources in conjunction to it. This is achieved by innovating the manner in which the product is provided. Weak interaction with private customers, desire for new knowledge, wanting cooperation and the presence of intrapreneurs seem to drive innovation in the residential house investment context. Many of the innovations in this kind of investments appear to be replicable (from one district heating provider to another as well as from one residential house investment to another).

Conclusions

The findings imply that the industry of district heating has a pronounced ambition to improve the manner in which the product is produced and distributed. The industry has a well developed understanding of the technical aspects whereas customer interaction and market oriented business logic are weak spots. The industry is aware of flaws related to customer treatment and is working on improving it. Whether weaknesses related to business logic are apparent to the industry or not is difficult to ascertain. What is certain, is that work remains to be done in relation to it.

This study has provided empirical insights. It seems as if innovations can be resorted to for boosting the value of detached residential house district heating investments. The high level of replicability indicates that innovations can be forced through; i.e. value can be created by means of active management of innovations in residential house district heating investments. Plenty remains to be won in both customer interaction and in business logic. Thinking outside of the notorious box seems to be a feasible way for increasing the value and thereby extension of residential house district heating in Sweden! The ultimate challenge is to dare; dare to walk the winding and unpaved roads of innovation.