



Contents lists available at ScienceDirect

Journal of Co-operative Organization and Management

journal homepage: www.elsevier.com/locate/jcom



Introducing a co-operative-specific business model: The poles of profit and community and their impact on organizational models of energy co-operatives

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ARTICLE INFO

Article history:

Received 22 April 2016
Received in revised form 13 March 2017
Accepted 23 March 2017

Keywords:

Energy co-operatives
New institutional economics
Business model
Energy turnaround
Member orientation

ABSTRACT

The public participation in the energy turnaround resulted in the foundation of many energy co-operatives (ECs) which are predominantly active in photovoltaics. Commonly, the business models of energy co-operatives are designed based on traditional (profit-oriented) concepts from business economics. However, these show their limitations when brought together with co-operative-specific characteristics. The aim of this research is to provide a conceptual framework for energy co-operative business models, meeting the co-operative's organizational dichotomy of market orientation on one side and community orientation on the other. By synthesizing the relevant theories of business models, co-operatives, and management paradigms, a new business model framework for energy co-operatives is developed. Ultimately, three types of co-operative business models can be distinguished, depending on the members' roles as well as their corresponding (in-)efficiencies.

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1. Introduction

Originating from the farming sector in old Egypt (Staab, 2013), the legal form “co-operative” is present today in several industrial and service-oriented sectors. Thereby, the co-operative model turned out to be highly flexible in meeting new challenges (Davis & Worthington, 1993), drawing recognition not only as a legal form but also as an alternative economic system (Zerche, Schmale, & Blome-Drees, 1998). Compared to pure market-oriented organizations, the co-operative model is characterized by an additional community approach, focusing on members' promotion (Bolsinger, 2011; Draheim, 1952; Eschenburg, 1971; Henzler, 1962). In recent years, the co-operative model has frequently been applied by the German civil energy movement for promoting renewable energy. Starting in 2006, co-operatives within the energy sector accounted for a quarter of all co-operative foundations until 2011 (Kaltenborn, 2014); and now represent 17%¹ of all German co-operatives. Blueprints providing practical templates for the business models

of energy co-operatives (ECs) have established the basis for the dynamic foundation rate of the concept for the most common producer co-operatives (Stappel, 2010). While the configuration of ECs' business models depends on the individual situation (Huybrechts & Merstens, 2014; Stappel, 2010), market-based business model concepts have been utilized in both academia (Boontje, 2013; Welz, 2011) and practice (Energieagentur Rheinland-Pfalz, 2016) for framing and communicating co-operative business models.

However, the design and implementation of business models based on those conventional concepts resulted in more unconventional co-operative organizations which are deemed to predominantly focus on profits (Gawora, Bayer, & Völler, 2013; Schröder & Walk, 2014), contradicting their inherent ideals. Moreover, business models that are most commonly applied nowadays show strong dependence on a favourable environment while simultaneously lacking in flexibility with regard to business model transformation (Liebe & Müller, 2014). This configuration runs the risk of failing to live up to hopes invested in ECs' capability of not only generating broad civic involvement and awareness (Eiselt, 2013; Klage & Brocke, 2013) but also becoming central players in shaping the energy turnaround (Müller & Holstenkamp, 2015).

The aim of this paper is to develop a theory-based conceptual framework that imparts the comprehension of co-operative specific characteristics with regard to design and implementation of

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¹ Based on a total of 5643 co-operatives (DGRV, 2015) and 973 that are active in the energy sector (Müller & Holstenkamp, 2015).

business models in order to reasonably incorporate both community orientation and market efficiency. In fact, the appearance of atypical co-operatives which do not stick to the principle of identity of members and customers but mainly addressing an external market is not a new phenomenon itself (Boettcher, 1980; Bolsinger, 2011; Bonus, 1986; Henzler, 1962; Münkner, 1990). Thus, the present research does not only contribute to theory and practice of ECs but also to the co-operative sector in general.

The rest of the paper is structured as follows. Section 2 presents and reflects on the development of ECs and their specific attribute of member promotion. Section 3 then discusses the co-operative-specific management paradigms. In Section 4, the business model literature is employed as the theoretical foundation for the study. A new co-operative business model concept for (energy) co-operatives is proposed and evaluated in Section 5. Section 6 offers a conclusion.

2. Basic structure and evolution of the co-operative organization model and ECs in particular

Formations of co-operatives are often traced back to a market imbalance between supply and demand (Huybrechts & Merstens, 2014), which can be cured by a joint use of existing resources and collaborative action (Staab, 2013). The co-operative framework of values and principles is supposed to ensure a durable link between social ideals and economic operations (Flieger, 2011; Ringle, 1994; Schacht, 2008). Contrary to shareholder-oriented companies (Theurl, 2002), the co-operative approach is not about maximizing the investors' return on investment, but to promote its members/owners, e.g. by providing them with services and products in a way the existing market fails to (Grosskopf, Münkner, & Ringle, 2009; Henzler, 1962; Ringle, 1994). However, a necessary precondition is economic activity that is "at least non-deficient", together with a so-called "promotion-essential profit" (Grosskopf et al., 2009; Kramer, 2007; Tschöpel, 2010) to cover the opportunity costs and prevent members' claims for compensation of losses. From an economic perspective, this can be referred to as the minimum principle (Athans, 1967) – achieving a goal (member promotion) with minimum input (costs). Thus, co-operative organizations are characterized by a duality of goals representing market orientation on the one hand and community orientation on the other (Bolsinger, 2011; Draheim, 1952; Eschenburg, 1971; Henzler, 1962). A financial-based promotion through dividends is only compliant with the cooperative law and idea as long it is not predominantly in opposition to direct member promotion (Beuthien, 2000; Goddard, Boxall, & Lerohl, 2002). In an ideal setting, this is already prevented by the co-operatives core idea of self-help and self-organization through serving the member/owner in his or her role as a customer (principle of identity), managed by the members/owners (Draheim, 1952; Gentzoglani, 1997; Ringle, 1994). Commonly, co-operatives are named after both roles the members occupy. A "consumer co-operative", for instance, is characterized by a venture owned and managed by the individuals who use its services, whereas a "worker co-operative" unifies the owners and workers of a company and a "housing co-operative" the owners and tenants (Viardot, 2013). However, similar to the co-operative's principles, the organizational configuration turned into a normative model in the course of time (Bolsinger, 2011). A changing economic landscape and amendments to the co-operative act have led to new organizational forms of co-operatives (Boettcher, 1980; Bolsinger, 2011; Bonus, 1986; Münkner, 1990).

Building upon this, ECs represent an idealistic example which demonstrates this development. In order to serve themselves by community-owned power plants, traditional ECs were founded by citizens of rural areas without electricity at the beginning

of the 20th century (Flieger & Klemisch, 2008). In contrast, the evolution of modern ECs dates back to governmental promotion incentives and the ongoing civil energy movement.² Surveys asking representatives about their original goals reveal a strong emphasis on environmental protection, including the promotion of renewable power plants, the contribution to combatting climate change, and the reduction of CO₂ emissions (Kaphengst & Velten, 2014; Volz, 2012). Over the course of time, several different classifications and definitions for energy co-operatives have emerged (Holstenkamp, 2012; Yildiz, 2013). The approach by Klemisch and Maron (2010) offers four distinct co-operative types: energy-producer co-operatives, energy-consumer co-operatives, energy-producer-consumer co-operatives, and energy service co-operatives. Ninety-five percent of modern ECs enter the energy market as producers (DGRV, 2014), of which three-quarters utilize photovoltaic (PV) for generating electricity (Yildiz et al., 2015). Contrary to historical ECs, the produced electricity is mostly not being provided to the members as customers, but instead is being fed into the public grid in exchange for a guaranteed compensation. Correspondingly, those ECs do not maintain a customer relationship with their members in a traditional way. As a result, a scientific discussion emerged about whether the underlying configuration could assure an appropriate promotion of the members (Flieger, 2011; Gawora et al., 2013; Liebe & Müller, 2014; Maron & Maron, 2012; Volz, 2011). PV co-operatives in particular are rumoured to primarily focus on profit maximization (Schröder & Walk, 2014). Following the proposition by Briscoe (1971), a focus on profits mainly attracts investors whereas direct promotion lures idealists. Hence, the present situation both fails to comply with the original mission and decreases the potential of designing a sustainable energy landscape. While this issue addresses the co-operative's community approach, the market approach becomes apparent through environmental changes in the energy sector.

With respect to the politically enforced energy turnaround, aiming for 80% of gross electricity consumption in Germany to be supplied by renewables by 2050, the German government enacted a universal 20-year guaranteed and financially attractive feed-in compensation for pure electricity production with renewables. In the absence of a real market and competition, the incentive regulation has led to a certain kind of "happy-go-lucky" mindset, resulting in a general rush on incentive-exploiting foundations (Faulstich et al., 2013). However, the recent political and regulatory interventions aim at the generation of new business models which are able to cope with the conditions of a free market and enable new market developments (Doleski & Aichele, 2014). This market orientation is supposed to transfer the energy turnaround into a more sustainable movement. Consequently, ECs are required to operate within the scope of new business models to counteract the declining foundations of ECs caused by the changing environmental conditions (Müller et al., 2015).

The ability of co-operatives to cope with a competitive market has drawn considerable academic attention so far, and is commonly explained by the New Institutional Economics. Therefore, the co-operative-specific management paradigms are introduced in the following section.

3. Co-operative-specific management paradigms

The core of the efficiency discussion within the New Institutional Economics is the concept of a ubiquitous opportunism which has to be anticipated by specific actions of regulation (Williamson, 1979). With respect to the view of a firm as a nexus of contracts

² For the definition of civil energy movement, see Nestle & Degenhart (2014).

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