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Understanding household switching behavior in the retail electricity market

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HIGHLIGHTS

- This paper investigates the barriers for electricity supplier switching in Denmark.
- Four switching barriers were identified.
- Relationship management and economic benefits are critical for consumer switching.
- Three consumer segments for electricity supplier switching were identified.

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ABSTRACT

Deregulation of the Danish retail electricity market nearly a decade ago has produced little consumer switching among suppliers or renegotiation of supplier service contracts. From an energy policy perspective, a certain amount of supplier switching is an important indicator of the success of market deregulation. This argues that poor relationship management and a lack of economic benefits are two critical barriers to consumer switching. Latent class analysis indicates that only 11.4% of consumers are non-switchers, whereas 41.1% can be considered potential switchers and approximately one-half (47.5%) can be considered apathetic consumers. We also discuss the managerial implications for both electricity suppliers and policy makers.

1. Introduction

Deregulation of the electricity market is an important issue in the energy sector. A major aim of deregulation is to increase competition among electricity retailers/suppliers and thereby enrich consumer choice among electricity products. Electricity retailing is a service industry, and electricity retailers/suppliers buy and sell electricity purchased in the wholesale market to residents through electricity supplying contracts (i.e., the products). A typical electricity supply contract contains the price, energy source, contract length, etc. The Danish Energy Association has established an internet-based price and product comparison site, www.elpristavlen.dk, which provides information about electricity suppliers as well as the products on the market to promote consumer switching and provide better information about the electricity market (Elpristavlen, n.d.). Switching electricity suppliers is similar to switching any other service provider, such as banks and mobile phone operators, and is a simple process that only takes a few minutes (Elpristavlen, n.d.). Households only need to contact the new supplier by phone, internet or mail and provide the household registration number (Elpristavlen, n.d.). Switching does not require re-installation of electric cables or meters, and it is free of charge (Elpristavlen, n.d.). Usually, a minimum of one month is needed to transfer from the current supplier to a new supplier, depending on the previous contract (Elpristavlen, n.d.). Given that many established and new electricity suppliers began to offer an extensive range of electricity products after the EU market deregulation in 2003 (Meyer, 2003), it is remarkable that the majority of households remain reluctant to switch suppliers (Konkurrencestyrelsen, 2009). Surprisingly, even cheaper offers do not seem to increase the willingness to switch significantly. Over past few years, the rate of supplier switching has fluctuated near 2–3% (Dansk Energi, 2010). Indeed, Danish households are less willing to switch suppliers compared to their Nordic neighbors (Annala and Viljainen, 2009).

Market competition and consumer switching are two important issues that should be addressed to ensure the success of electricity market deregulation. Waterson (2003) argued that a low level of consumer responsiveness in the market is an important barrier to competition. However, several factors complicate

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supplier switching in the liberalized electricity market. First, the former monopolists have established (forced) consumer loyalty through long-term relationships, which contributes to switching inertia and prevents consumers from trying new alternatives (Wieringa and Verhoef, 2007). Second, electricity is a low involvement and necessary good, but the cost of electricity constitutes a small proportion of a typical household's disposable income despite the fact that Danish households pay among the highest electricity prices in the world (Togeby et al., 2011). Additionally, although the total price of electricity in Denmark has increased over past few years (Energistyrelsen, 2012; Togeby et al., 2011), electricity suppliers have a limited influence on the price because approximately 75% of the total price consists of fixed taxes and transmission costs. These small economic gains likely limit consumers' interest in switching (Konkurrencestyrelsen, 2009). Third, electricity suppliers generally have no physical presence at the point of service delivery and are unlikely to gain consumer awareness or influence consumers' switching intentions (East et al., 2007). Fourth, the nature of electricity as an impure public good has produced much confusion for consumers. On the one hand, households are required to pay for electricity service. On the other hand, the externalities of electricity generation are collectively borne by society. Fifth, non-active consumers will nonetheless receive electricity through the *default obligatory electricity supplier* scheme, which has somewhat discouraged households from acting in the market. These non-active households do not enjoy the potential price benefits of free competition (Danish Energy Regulatory Authority, n.d.). However, a policy that forces all consumers to choose among electricity suppliers and products may be economically inefficient (Ek and Sönderholm, 2008). Finally, although most households are aware of the possibility of switching suppliers, switching is new concept and many consumers remain uncertain about the consequences of switching.

Understanding consumer switching behavior in the retail electricity market is important because it can enable electricity suppliers to develop marketing strategies to overcome barriers to switching and expand their customer base by retaining established consumers and attracting new consumers. This ability may also strengthen bargaining power in the wholesale market and improve operating efficiency. Additionally, understanding consumer behavior allows energy policymakers to re-evaluate and improve policies that can facilitate competition in the electricity retail market.

The purpose of this paper is to investigate and analyze household switching behavior in a liberalized electricity market utilizing Denmark as an example. Although Denmark possesses a well-functioning retail electricity market, low levels of consumer switching are observed. This paper considers consumer knowledge about and attitudes towards the electricity market and develops a model of barriers to switching to investigate how these barriers influence switching behavior. Latent class analysis is utilized to identify possible switcher segments. This study is part of the project “Energi på Havet” (Energy at sea, see http://www.energipaahavet.dk/), which is a meta-project of the social and technological aspects of energy development in Denmark.

This study differs from previous work on electricity supplier switching behavior in that it examines not only the factors that influence consumer switching intention, employing a theoretical framework that embraces consumer loyalty, monetary and psychological aspects, but also explores the heterogeneity of switching barriers among residential energy consumers.

The remainder of the paper is organized into five sections. Section 2 describes the theoretical framework, provides a review of the relevant literature on consumer switching behavior in the services sector and discusses its relevance for the electricity retailing market. Section 3 describes the data. Section 4 presents the model estimations and study results, and Section 5 discusses the results and concludes.

2. Theoretical framework

2.1. The theory of supplier switching

Switching services is different from selecting among physical goods due to the nature of service products (Clemes et al., 2000). Marketing research on the determinants of consumer switching includes a variety of services, such as banking, insurance and travel agency services (Colgate and Lang, 2001; Keaveney, 1995; Lee and Cunningham, 2001). Consumer loyalty is an important influence on attitudes toward switching (Oliver, 1999). Additionally, researchers have highlighted the economic influences of switching (Klemperer, 1995). These influences include the cost of searching for alternatives (Waterson, 2003) and the expected economic benefits of switching (Bulton and Lemon, 1999).

One of the earliest theoretical frameworks for consumer switching decisions was proposed by Keaveney (1995) utilizing the critical incident technique (Flanagan, 1954). This framework suggests that the following eight factors are likely to be involved in consumer supplier switching decisions: price, degree of convenience, core service failure, quality of service personnel, service recovery, competition, corporate ethics and contingency for switching. However, this model does not examine the importance of individual factors in the decision making process (Colgate and Hedge, 2001).

The framework proposed by Keaveney (1995) has been adjusted and extended by researchers. For example, East et al. (2007) argued that the experimental techniques utilized by Keaveney (1995) may cause retrial bias according to the memories of the respondents. Bansal and Taylor (1999) extended the model by incorporating marketing and psychological theories in a study of the banking sector, which is known as the service provider switching model (SPSM). The SPSM model contains five explanatory elements for switching intention and behavior (1) the quality of the service; (2) the cost of switching; (3) individual attitudes toward switching; (4) social influences and (5) satisfaction.

Marketing research emphasizes the importance loyalty in consumer switching (Colgate and Lang, 2001; Czepiel and Gilmore, 1987; De Ruyter et al., 1997; Yang and Peterson, 2004). Greater consumer loyalty increases consumer satisfaction and lowers switching intentions (Szymanski and Henard, 2001). Furthermore, relationship management is particularly important for service firms (Berry, 1995; Berry and Parasuraman, 1991; Colgate and Lang, 2001; Jones et al., 2000). Service firms can thus gain a better understanding of customer desires and needs and facilitate customized solutions for individual consumers through relationship management, which helps service firms earn consumer favor and loyalty (Berry, 1995; Bolton, 1998). However, the intangible nature of services makes it difficult for consumers to judge service quality before trying it. A well-established relationship with the current service provider may reduce the risk of supplier switching (Berry, 1995).

The costs and benefits of switching are the main concerns in consumer switching studies within economics research. Supplier switching is likely to occur when consumer perceived benefits outweigh the perceived costs of switching. Both the perceived benefits and costs of switching include economic and psychological aspects (Bansal et al., 2005). The monetary side effects are the direct economic effects of switching, whereas the psychological side effects are the consumer emotions attached to the service firms based on the quality of the service they have received. Gamble et al. (2009) and Giulietti et al. (2005) argue that the