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THE DIFFUSION OF A POLICY INNOVATION IN THE ENERGY SECTOR: EVIDENCE FROM THE COLLECTIVE SWITCHING CASE IN EUROPE

November 2018

Marco Fanno Working Papers - 229

The diffusion of a policy innovation in the energy sector: evidence from the collective switching case in Europe

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Abstract

This paper investigates the factors that influence the dissemination of an energy policy innovation, the collective switching, adopting the business ecosystem as unit of analysis. Collective switching is a new phenomenon that recent literature has not yet investigated. It is characterised by a group of people with common characteristics that, through an intermediary, negotiates with the energy suppliers and, thanks to its bargaining power, is able to obtain advantageous contracts. The 6C framework is adopted in order to perform a cross-country analysis oriented to single out differences in the collective switching ecosystems. Through a comparative case study analysis, which examines in rich detail 11 European countries' collective switching campaigns, this work provides an accurate description of the collective switching business ecosystem and the ways it reacts to a policy innovation. Semi-structured interviews, conducted with consumer associations that organised collective switching campaigns, provide insights for the definition of some policy interventions.

Keywords

Business Ecosystem, policy innovation, collective switching, energy sector, Europe

J.E.L Classification code: Q40, O35, O52, O57

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1. Introduction

Advocates of innovation systems (Lundvall, 1992; Nelson, 1993; Edquist and Hommen, 1999) generally agree that government policy has a key role to play in the promotion and diffusion of alternative developmental paths such as those promoting sustainability and that strong policy instruments are needed to insure that such transformations occur (e.g. Rennings et al. 2004: 27). Therefore policy innovation can be responsible of sustainable trajectories, which, in order to be effective, must involve multiple players of a business ecosystem (BE). Recently, the literature has shown an increasing interest in research focused on new services and policy innovations adopting as unit of analysis the BE (Adner and Kapoor, 2010; Teece, 2010; Clarysse et al. 2014; Rinkinen and Harmaakorpi, 2017). In the BE, the innovation comes through the sharing of expertise, capabilities and resources from different fields (Heikkilä and Kuivaniemi, 2012). The ways in which a policy innovation develops depends on the actions of the BE's players. The knowledge of the market and of the potential risks related to the policy innovation is a necessary requirement to avoid policy innovation failure (Adner, 2006; Christensen et al., 2016; Teplykh, 2018).

The aim of this paper is to study the factors that might affect the development of a policy innovation by adopting the BE as unit of analysis. In particular, the paper investigates the role of intermediaries in encouraging the dissemination of the policy innovation and map the evolution of the energy BE during time. To do that, the study examines one of the most disruptive energy policy innovation (EPI) that spread in Europe in recent years, namely, the collective switching (CS).

CS is a EPI developed in Europe from 2011 and it is the result of a big change in the energy sector (like liberalisation and subsequently privatisation). CS is a new phenomenon that recent literature has not yet investigated and that has spread in recent years in the following European countries: United Kingdom, Netherlands, Ireland, Belgium, Denmark, Austria, France, Italy, Slovenia, Spain and Portugal. CS is characterised by a group of people with common characteristics that, through an intermediary, negotiates with energy suppliers and, thanks to its bargaining power, is able to obtain a much more advantageous contract. The intermediaries (consumer associations, local authorities,

private companies) mediate between consumer and energy suppliers, organise a price-lowering auction and send to the consumer the 'winning offer' and the details of the new tariff. There is no obligation for the consumers to switch and, if they decide to switch, they enter into a contract with their new supplier (ACER, 2015). This EPI is developed at country level, but it is the result of pressure by the European Commission to improve customer experience, help consumers to switch, and to encourage competition between energy providers. In this context intermediaries play a central role. This work considers as intermediaries consumer associations that are part of BEUC (Bureau Européen des Unions de Consommateurs)[3], the European consumer organisation, and organise CS campaigns in their respective countries.

From a theoretical point of view, this work lies at the intersection between previous research on the BE (Moore, 1993, 1996, 1998; Iansiti and Levien, 2004; Lewin and Regine, 1999; Chesbrough, 2003; Gawer and Cusumano, 2002) and on innovation intermediaries (Geels and Deuten, 2006; Raven, 2006; Bos and Grin, 2008; Medd and Marvin, 2008; Moss, 2009). In particular, it aims at answering the following research questions: what are the main features of a BE that might affect the development of a EPI? What is the role of intermediaries?

A comparative case study approach (Yin, 2003), which examines in rich detail the collective switching campaigns realised in 11 European countries, is used to study the characteristics of BE in relation to the capacity of having an impact on the development and the dissemination of an EPI. For each case study, information comes from data triangulation, combining different data sources: semi-structured interviews, company profiles, company energy profiles and other external secondary sources. Data collected is organised applying the 6C framework (context, cooperation, construct, configuration, capability and change) proposed by Rong et al. (2015). We adopted this framework in order to understand the energy business ecosystem, how it operates and the link between competition and energy policy development under a life cycle perspective.

[3] BEUC brings together 43 European consumer organisations from 32 countries (EU, EEA and applicant countries).

The paper proceeds as follows: section 2 presents the theoretical background, section 3 illustrates the analytical framework, section 4 explains the research context and the methodology. Section 5 discusses the results, while section 6 offers some concluding remarks.

2. Theoretical background

2.1 The business ecosystem

BE concept was introduced for the first time by Moore (1996; 1998), who defined it as an economic community composed by mutually supportive organisations that interact to produce goods and services. It has been analysed by the existing literature from different points of view, which can be classified into three categories: the individual actors (typically a company), the relationship between the actors (typically a dyadic inter-company relationship) and the ecosystem (Järvi, 2017).

The individual actors can be customers, delivery channels, sellers of complementary products and services, suppliers, policy makers and so on. Each actor can play different roles in the ecosystem, having either a central (Moore, 1993; Iansiti and Levien, 2004; Lewin and Regine, 1999), or a marginal position (Pierce, 2009). The first line of research, on the central position, have examined BE leaders or keystones, as in the studies of Moore (1993) on Wal-Mart and Iansiti and Levien (2004) on Microsoft, or, more generally, main companies of the ecosystem (Gawer and Cusumano, 2002, 2014; Iyer and Davenport, 2008; West and Wood, 2013; Wareham et al. 2014). The second line of research is more focused on the relationship among individual actors (Pierce, 2009; Adner and Kapoor, 2010; Kapoor, 2013; Ethiraj and Posen, 2013; Kapoor and Furr, 2015). Authors that observe this relationship are interested in strategic interactions with independent complements. Moreover, there are also other studies that investigate the way users adopt technological platforms in ecosystems (Xu et al. 2010; Mäkinen et al. 2014; Kang and Downing, 2015; Kim, 2016), or the relationships between companies in the same market (Pierce, 2009).

Research on BEs can be further classified on the basis of the main features of the activities performed by the organisations that compose them. We can distinguish research on BEs in general

(Moore, 1993; Heikkilä and Kuivaniemi, 2012), on digital BEs (Tsatsou, Elaluf-Calderwood and Liebenau, 2010; Selander et al. 2013), on innovation BE (Adner, 2006; Adner and Kapoor, 2010; Wessner, 2007; Nair, 2007; Almirall and Casadesus-Masanell, 2010; Chesbrough, 2003), on technology BE (Wareham at al. 2014), on platform BE (Ceccagnoli et al. 2012; Thomas et al. 2014) and, finally, on supply BE (Ketchen et al. 2014).

To the best of our knowledge, there are not, at the moment, research works that apply the BE concept to the energy sector. Our work attempts to apply this concept, which is preferred to others for the flexible nature and the ability to adapt to different scenarios, as a tool for describing the changes in the energy sector driven by the introduction of a disruptive energy policy.

2.2 The role of intermediaries in innovation

Intermediaries play an important role in national as well as in regional innovation system (Inkinen and Suorsa, 2010). The intermediary often diminishes market and system failures (Suvinen et al. 2010) thanks to its intervention, because it has a more complete knowledge about the various technological domains characterising the innovation system.

The majority of the literature explores *ex post-facto* case studies (Raven, 2006; Bos and Grin, 2008), and only few contributions are devoted to the exploration of the role of intermediaries in the energy sector, but not adopting the BE perspective (Geels and Deuten, 2006; Medd and Marvin, 2008). Moss (2009) highlights that, in all these papers, the role of intermediary is played by a boundary organisation involved in relational work to connect different actors: 'whether facilitating dialogue, providing guidance, bridging gaps, advocating reform, or pioneering novel forms of interaction, their arenas of action are defined in betweenness' (Moss, 2009, p. 1481).

Geels and Deuten (2006) identify three key roles of intermediaries: aggregation, creation of institutional infrastructures, reversal role. The aggregation role is the ability to transform limited knowledge into shared knowledge. The second role concerns the intermediaries' ability to create an institutional infrastructure useful to the development and the circulation of the shared knowledge.

Finally, the third role regards the ability to transform the 'shared knowledge' into guidance for local projects. Geels and Deuten (2006) explore in depth also the role of intermediaries in the energy field. In particular, they underline the intermediaries' effort to learn and adapt new support services for the local community energy projects.

3. Analytical framework

In this paper, the energy BE is investigated adopting the 6C framework proposed by Rong et al. (2015), who originally illustrated the functioning of the IoT (Internet of Things) BE. Their work extended the pre-existing 3C framework (Zhang et al., 2007; Lin et al., 2009), in order to allow analysing more in detail a network system. Three dimensions compose the 3C framework: context, configuration and capability.

The context dimension considers the main environmental characteristics of a supply network, from an evolutionary perspective, which encompasses also the concept of BE lifecycle (Moore, 1993). The aim of this macro category is to explore why a supply network emerges over another. In addition, this macro category considers the role of non-direct partners to explore how an organisation in a BE shapes future development alongside a co-evolutionary perspective (Rong et al. 2013c).

The configuration dimension concerns the constructional elements of a supply, and is considered an essential dimension of analysis in the study of global engineering networks (Zhang et al. 2007), supply networks (Srai and Gregory, 2008), and modular supply networks (Lin et al. 2009).

The capability dimension investigates key success features of a supply network. This macro area explains why one network operates better than another (Lin et al. 2009; Zhang et al. 2007; Shi and Gregory, 1998), distinguishing between: a) the ability to reach strategic targets, thriftiness ability, manufacturing mobility and learning ability. Srai and Gregory (2008), when analysing global supply networks, included also the capability of communication and sharing, integration and synergising, innovation and learning and adaptation and restructuring.

Rong et al. (2015) extended the 3C framework for better explain features of complex business ecosystems, by adding other three dimensions: cooperation, construct and change.

Cooperation refers to the mechanisms by which partners interact. The unit of analysis is not limited to the vertical company-customer relationship; also the horizontal inter-organisational relationship is analysed (Iansiti and Levien, 2002; Iansiti and Levien, 2004; Moore, 1996; Power and Jerjian, 2001). The cooperation process might evolve and vary in different stages of the BE lifecycle (Rong et al. 2015).

The construct dimension represents the scaffolding structure of a BE.

Finally, the change dimension investigates how a BE, at the end of its lifecycle, is renewed in a new configuration pattern, where the interaction between partners of the BE changes dynamically, paving the way to new cooperation trajectories.

Table 1 summarizes the main components of the 6C model in the case of the energy sector, illustrating the internal and the external factors that in different ways may have an impact on the evolution of the energy sector BE, particularly in the case of the presence of an EPI, such as the CS.

Table 1. The 6C framework

Context
Electricity and gas retailers prices
Retailers to final consumers (natural gas and electricity)
Market share (natural gas and electricity)
History and development of key players
Cooperation
Partnerships (horizontal and vertical)
Construct
BE structure and infrastructure
Configuration
Marketing strategy
Relationship with the territory
Capability
Special team formation
Internalized technical capability
Cumulated experience
Technical platform used also in other sectors
Change

Δ Retailers to final consumers (natural gas and electricity)
Δ Market share (natural gas and electricity)
Presence of other intermediaries
CS internalized at government level
Auction regarding renewable energies

Source: authors' elaboration

4. Research context and methodology

4.1 Energy sector specificities

In most European countries, the energy industry is undergoing radical change. The energy market liberalisation started in 1990s, stimulated competition between energy suppliers (Cambini et al., 2016). Horizontal and vertical mergers and acquisitions took place; numerous electricity brands were created and independent energy sector regulators were established (Walsh et al. 2005). In the oil and associated upstream gas sectors, the liberalisation has involved the full or partial privatisation of state owned companies, often in countries that were net importers of fossil fuels (Wolf and Pollitt, 2008). In the electricity and downstream gas industry, the liberalisation was followed by privatisations and by structural reforms with the aim to create competition among wholesalers in the retail market. Energy liberalisation led to positive and globally efficiency gains across all sectors, but also to a lack of visible direct benefits to households. However, it improved the governance of monopolistic utilities, the prospect for competition and innovation and the quality of policy instruments for environmental emission control (Pollitt, 2012).

The result of these changes, which started more than thirty years ago, is also the possibility, for consumers, to purchase energy from a supplier they choose among a large portfolio of options. Nevertheless, in many countries, the switching rate is low and consumers are often reluctant to switch energy supplier. The reasons are various: customer inertia, cost of finding alternative suppliers, risk aversion and lack of market transparency for customers (Graehl et al., 2001; Yang, 2014; He and Reiner, 2017). After the market liberalisation, a large number of consumers did not change energy supplier even if possibly a convenient choice. Gwinner et al. (1998) explain this

behaviour by identifying the interpersonal relation as a barrier to switching, but is it also true that consumers do have little incentives to switch because they consider the energy market non-transparent and/or too complex.

In Europe, the European Commission's 'Clean Energy for All Europeans' package, presented on November 30, 2016, appears as the first positive step towards improving conditions for consumers within the energy market. In particular, the 'Clean Energy for All Europeans' aims to (BEUC, 2017):

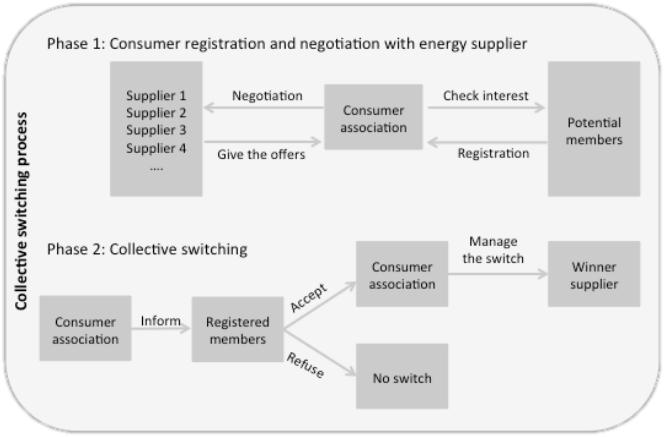
- Improve consumer experience through transparent and easily comparable offers, clear contracts, accurate bills in a user-friendly format;
- Help the consumer comparing different offers providing additional rules for comparison tools and bundled offers;
- Set rules to facilitate switching supplier;
- Ensure effective market surveillance and dispute resolution to break up monopolies and incentive a dynamic competition.

CS, which is the objective of our analysis, is an EPI that fits perfectly to the European Commission rules proposed in 2016. CS was born to improve the consumer switching behaviour, through the work of intermediaries that tend to improve the viability of energy service contracting by reducing transaction costs for both client and contractor (Nolden et al., 2016). Even if studies about consumer's behaviour affirm that consumers are often reluctant to switch their energy supplier (Konkurrencestyrelsen, 2009), CS campaigns seem to be able to change the existing scenario. With the introduction of the liberalised market in 2007, suppliers started to propose several offers. Offers' differentiation includes contract duration, price preservation periods, dual-fuel offers, additional services, renewable/green energy preferences and so on and so forth. This means that whilst the consumer can choose different products and services, the level of transparency is reduced, because the comparison between offers becomes increasingly difficult.

Consequently, 27-38% of switching consumers have lost surplus because of their confusion in the choice of a new supplier (Wilson and Price, 2007). In this contest, CS could be considered an EPI aimed at creating 'better protection' for consumers. Over the past few years, CS campaigns have become increasingly effective, due to their potential to remove perceived barriers to switching, such as the time-consuming switching process, the risk of not obtaining the best deal and the distrust in new suppliers.

It might be worthy here to spend few words on detailing the specific features of a CS. CS is different from the better-known group purchasing (GP). In both cases, consumers obtain a discount thanks to their buying power (Little and al. 2010), and indirectly enhance the competition between the offering companies (Littlechild, 2008). The main difference is that the GP takes place from a spontaneous initiative of consumers. In the GP, there is not a price auction, and the activity of the group is often lead by a member of the group that takes the role of the group leader, informing the GP on how to purchase, collect orders, forward the overall order and make the payment. In CS, consumers receive more protection, there are official intermediaries that create groups with common characteristics (clusters of consumers with shared consumption preferences), collect information about energy suppliers, and manage the communications, the auction and the switching process. The intermediaries are crucial players in the energy BE and create the preconditions for the dissemination of the policy innovation. Figure 1 provides a graphic explanation of the CS process.

Figure 1. The CS process



Source: authors' elaboration

4.2 Research methods

The research uses a comparative case study approach (Eisenhardt, 1989; 1991; Yin, 1994; 2003; 2013). The purpose of the case study research is to use empirical evidence from real people in real organisations to make an original contribution to knowledge. The case study method is amongst the most flexible of research designs, it includes different sources of evidence and it is particularly useful in this case because CS is a new phenomenon and there is few data about it. In addition, the comparative case study approach is useful for conducting research on a phenomenon that is in the early stage of development (Eisenhardt K. M., 1989) and when the boundaries between phenomenon and context are not evident (Yin, 1981).

Therefore, the methodology applied fits well the exploratory aim of our research. The case selection is made in accordance with 'purposeful sampling' outlines and based on the principle of theoretical replication or namely the repetition of the analysis on different cases with distinct variables (Eisenhardt 1989).

The administration of semi-structured interviews collected information on: how the consumer associations and the energy suppliers make their strategy operational, how consumer associations create relationships with the energy supplier and its typology (long-term or short-term relationship), what is the relationship with the territory/consumers and the policy implication of this phenomenon. The interviews were conducted from April to the end of September 2017 and were carried out by one of the authors in person, for the Italian sample, and by phone for the other countries. The interviews length varied from thirty minutes to one hour and they were conducted with the managers in charge for the coordination of the CS campaign.

A BEUC Senior Economic Officer was interviewed to better understand the phenomenon and the BEUC role in the ecosystem.

Data triangulation was implemented to increase the validity of this qualitative research (Rice and Ezzy, 1999). Country statistical profile (OECD, 2017) and energy profile (EC, 2017) were analysed to enrich personal and telephone interviews. The complementary data covered the period 2011-

2016. The selection of these years is due by the fact that they cover the period when CS initiatives have been in place, consequently, they provide additional information about the development of the phenomenon in different countries. The combination of information coming from the interviews with information coming from the country statistical profile and energy profile data offers a clear picture of the functioning of the BE and help better understanding the differentials between country contexts and BE changes.

4.2.1 Data collection

In order to analyse the ways in which the energy BE reacted to the introduction of the CS in Europe, we first listed all the consumer associations that are part of BEUC and organise CS campaigns in their countries. We decided to take into consideration this sample for data availability and because each consumer association follow a rigid BEUC policy recommendation that make each CS campaign comparable with each other.

Table 2 lists the consumer associations that worked as intermediaries in the BE of each of the 11 countries where they operated, and provides additional information about the main features of each CS campaign.

Table 2. Main features of the 11 countries' CS campaigns

Countries	Consumer Association	Sector Covered	Energy supplier that won the auction	Date	Number of consumers who signed up for the campaign	Number of consumer that switched	% Over the population	% Of consumers that switched	Total saving
Austria*	VKI	Electricity and gas	-	2013-2014	260,584	70,000	3,08%	26,86%	€12.6m
				2015	48,410	12,500	0,57%	25,82%	€2.8m
				2015-2016	-	15,200	-	-	€5.3m
				2016-2017	-	20,000	-	-	€5.9m
Belgium	Test-Achats	Electricity and gas Photovoltaic panel	Elegant; Eneco; Essent; Lampiris; Mega; Octa+; Poweo – direct energy	2012	151,586	46,753	1,36%	30,84%	€16.9m
				2013	138,299	32,995	1,24%	23,86%	€6.8m
				2014	70,008	33,883	0,62%	48,40%	€6.9m
				2015	94,787	16,154	0,84%	17,04%	€2.6m
Czech Republic	dTest	Electricity and gas	Europe easy energy	2015-2016	74,000	22,229	0,70%	30,04%	€6.4m
				2017	55,775	-	0,53%	-	-
Denmark	Forbrugerrådet Tænk	Electricity and gas,	Vindstød	2012	-	4,000	-	-	-

		Green energy from wind turbines		2013	-	2,000	-	-	-
France*	UFC-Que Choisir	Gas	Lampiris	2013-2014	-	71,000	-	-	€13.7m
				2015	-	60,000	-	-	€5.0m
				2016	-	106,784	-	-	€15.7m
Italy	Altroconsumo	Electricity and gas	Dolomiti Energia; Alma Energy Trading; Gala; Engie	2013	197,000	40,000	0,75%	20,30%	€9.1m
				2014	84,000	13,229	0,31%	15,75%	€1.8m
				2015	68,000	11,500	0,25%	16,91%	€3.9m
				2016	60,000	12,000	0,22%	20,00%	€2.4m
Netherlands	Consumentenbond	Electricity and gas	-	2011	135,227	58,294	0,81%	43,11%	€14.1m
				2012	308,508	110,186	1,84%	35,72%	€34.7m
				2013	282,401	60,547	1,68%	21,44%	€16.1m
				2014	295,493	53,059	1,76%	17,96%	€16.0m
				2015	-	79,375	-	-	€32.6m
				2016		78,216	-	-	€27.9m
Portugal	DECO	Electricity and gas	Endesa, Goldenergy and Galp	2013	587,080	40,433	5,61%	6,89%	€0,7m
				2014	176,030	28,160	1,68%	16,00%	€1,8m
				2016	74,697	6,361	0,71%	8,52%	€0.3m
Slovenia	ZPS	Electricity and gas	Gen-I	2014-2015	-	12,300	-	-	€1,0m
				2017	-	-	-	-	-
Spain	OCU	Electricity and gas	Endesa	2013	486,254	27,300	1,04%	5,61%	€1.4m
				2014	120,000	15,000	0,26%	12,50%	€0.4m
				2016	-	12,200	-	-	€0.8m
United Kingdom*	Which?	Electricity and gas	Cooperative Energy	2012	287,365	38,000	0,46%	13,22%	€ 11,81

Source: authors' elaboration

** In Austria, France and UK, partners involved in the CS campaigns decided not to participate to the interview, however, it was possible to build up the case studies thanks to data and information provided by BEUC.*

The first consumer association that decided to develop a CS campaign was Consumentenbond (Netherlands) in 2011, followed by Belgium, Denmark, UK, Austria, France, Italy, Portugal, Spain, Slovenia and Czech Republic. The first campaign is usually the most innovative, with a large number of consumers who sign up for the campaign. After the first auction, the number usually decreases and stabilises. The only exception was in Netherlands, where the number of consumers who signed up for the campaign increased after the first auction, but the percentage of consumers that switched decreased. Netherlands is also the country with the highest total saving. Portugal is the country with the largest percentage of consumers who signed up for the campaign with respect

to its population. The switching rate calculated as the number of consumers that switched compared to the number of consumers that signed up for the campaign is around the 26-27% for Austria. Belgium's switching rate is not constant, it is between 20 and 30% the first two years, the third year is almost 50% and decreases drastically during the last campaign where the switching rate was only 17%. Italy is always around 20%; Netherlands shows a decreasing trend: in the first campaign the switching rate is around 40% and in the last 18%. Portugal and Spain show more or less the same trend: in the first year the number of consumers who signed up for the campaign was higher, but the number of consumers that switched was lower; for these reason, the switching rate is around 6-7%. The second year, the number of consumers who signed decreased with a consequent increasing of the switching rate that was around 13-16%. Finally, in UK the switching rate is 13%.

5. Case studies

5.1 Application of the 6C framework

Table 3 summarizes the case studies analysed taking into account the six dimensions.

Table 3. The case studies analysed under the 6C framework

	Context*	Cooperation**	Configuration	Capability	Change
Austria	• Active form 50 years	• E-control	• Consumers interest, but structure not ready • Hired additional HR • No marketing strategy		• Renewables
Belgium	• Active form 60 years		• Open relationship with the territory • Communication investment	• The technical platform is internalized • Investment to reach low-income households	• New intermediaries • Campaign on solar panels
Czech Republic	• High number of retailers and competition • Active from 25 years	• External PR agency	• Still at the beginning • Communication investment	• Platform used also for other sector (mobile tariff)	• New intermediaries • CS on other sectors
Denmark	• Consumers usually do not change supplier • Active from 70 years	• LM Delivery	• Criticism from media and politicians • Low switching rate • No capability to internalize the process.		
France	• Discrete number of suppliers • Active from 66 years		• Focus on gas market • Skepticism of the market		• Renewables
Italy	• High number of retailers and cumulative market share of main retailers less than other countries • Active from 44 years		• Lack of knowledge and trust of the consumers	• The technical platform is internalized • Platform used for other sectors	• Renewables • New intermediaries • CS on other sectors
Netherlands	• Active from 64 years		• Overcome the consumer concerns • Communication investment • CS as “standard activity”		• Renewables • New intermediaries
Portugal	• Recent energy market liberalization • Active from 43 years	• External technical and organizational support	• Low economic benefit • Large companies not participated	• The technical platform is internalized	• CS on other sectors
Slovenia	• Active from 27 years		• Low economic benefit • Communication investment • Attention to the media • Trust of the consumers	• Investments to replicate into other sectors. • Offline consumers’ campaign.	
Spain	• Active from 42 years		• Five big companies not participated • Problems to obtain a good price.		
UK	• Active from 60 years	• 38 Degrees (campaigning organization)	• Strongly interest at governmental level.		• DECC supported the development of CS

*Source: authors’ elaboration. * Mainly related to intermediary’ features; ** List of partners or, when the name is not disclosed, type of support received*

Concerning the context dimension, we reported the number of years in which the consumer association is active, since the seniority might be a good indicator of the capacity of pushing the CS implementation. All countries analysed show a highly concentrated energy market: there are few big retailers and the competition is low (with the exception of the Czech Republic, France and Italy). In the first stage of the CS campaigns organisation, all countries received support by PrizeWise[4] for developing the technical platform; some of them relied also on other external partners for communication purposes (Austria, Belgium, Czech Republic and Denmark).

In our work, the construct dimension is affected by the presence of intermediaries. Since we considered as intermediaries only consumer associations that are BEUC members, this component is, by design, homogeneous for each country, and therefore not reported in Table 3, where we focus on the cross-country differences between BEs.

The configuration dimension takes under consideration: 1) consumers, media and politicians' interest - strong interest in Austria, Slovenia and UK; 2) large suppliers participation - in France, Portugal and Spain the big suppliers decided not to participate; 3) marketing strategy of the consumer association - Belgium, Czech Republic and Netherland invested consistently in communication; and 4) relation of the consumer association with the territory - strong in Belgium and Slovenia.

The capability dimension captures some specific aspects related to resource and capability management, which includes: 1) the enrolment of special teams for the management of the CS campaign; 2) the internal capabilities of the consumer association in building the technical platform; and 3) the ability of the intermediary to expand the scope of the web platform in other sectors. The analysis reveals that all consumer associations created a special team; Belgium, Italy and Portugal internalised the technical platform; Czech Republic and Italy used the platform also in other sectors.

[4] PrizeWise, Inc. operates a website that retails coupons and allows its users to participate in an online trading platform. The company sells coupons and offers with an option offered to purchasers to receive free tickets to enter sweepstakes contests on the website.

The change dimension investigates if CS campaigns are organised also by other intermediaries (Belgium, Italy, Netherlands, UK), if there are CS campaigns specialised on renewables (Austria, Belgium, France, Italy, Netherlands) and if the market share of the main retailers decreased and the competition increased (common to all countries).

5.2 Results

From the analysis of Table 3, it is possible to classify the energy BE in Europe according to the stages of the BE lifecycle. We distinguish between 4 stages: 1) origin, 2) development, 3) re-orientation and 4) decline. Being CS an emergent practice, the maturity stage of the related BE is yet not reached. Two countries (Czech Republic and Slovenia) show an energy BE in the origin stage, two countries (Netherlands and UK) at the development stage, four countries (Austria, France, Belgium and Italy) at the re-orientation stage and three (Denmark, Portugal and Spain) at the decline stage.

Czech Republic and Slovenia show an energy BE in the origin stage, because it is still under construction; the consumer associations that operate in these countries are smaller and younger compared to other consumer associations. The history of CS organisation is recent, since they started to be active few years ago. Therefore the BE is still immature. The case study analysis shows that even if the Czech Republic and Slovenia consumer associations are smaller and their campaigns are more recent compared to other countries, there might be the right conditions for future development of the BE (attention to the media, trust of the consumer, high competition, large number of retailers, strong marketing investments).

Netherlands and UK are the only two countries whose energy BE is in the development stage. This EPI was able to evolve and diffuse successfully, even if the two cases are different. In the Netherlands, the consumer association played a key role, because it was very effective in overcoming consumers' concerns. It has organised more than two campaigns every year reporting impressive results. Other intermediaries also started to organise CS campaigns, and this EPI has become a standard and alternative activity for guiding the change of energy supplier. In the UK, the

consumer association did not play such a crucial role as in the case of Consumentenbond for the Netherlands. The success of the CS initiatives is more related to the growing interest of the government, which led the Department of Energy and Climate Change (DECC) to support the development of CS in the country. In both countries, the introduction of the EPI is responsible of a big change in the energy market. From the first years of the introduction of the CS, a large number of small retailers have grown; most of them focused on renewables. The cumulative market share of the main retailers decreased and the competition increased.

Austria, France, Belgium and Italy show energy BEs in the re-orientation stage, with different evolutionary trajectories. In Austria and France, after observing that the CS practice was showing a declining trend, the intermediaries hired new employees, and invested in communication activities. By doing so, they increased the probability of success of the CS campaigns. Recently, they organised a campaign that recorded the second best result in terms of total savings. In Belgium and Italy, the consumer associations have slightly abandoned the organisation of CS campaigns, but have activated virtuous circles that allowed the diffusion of this EPI through other intermediaries and in other sectors.

Denmark, Portugal and Spain show an energy BE in a stage of decline. In Denmark, the dissemination of the EPI encountered high barriers (criticism from media and politician, no capability to internalize the process, switching rate low). In Portugal and Spain, even if some CS campaigns are still in place, their performance is not encouraging, and signal a possible stop of the organisation of this type of initiatives in the future. CS campaigns organised by these countries report the lowest amount of total savings, and a consumer participation that is drastically decreasing. Moreover, consumer associations were not able to stimulate the market interest, failing, in particular, in not capturing the interest of the main retailers.

Table 4. The analysis of the energy BE lifecycle through the 6C framework

		ORIGIN (Czech Republic, Slovenia)	**DEVELOPMENT** (Netherlands, UK)	**RE-ORIENTATION** (Austria, France, Belgium, Italy)	**DECLINE** (Denmark, Portugal, Spain)
Context	Intermediary's expertise	• Medium	• High	• High	• High
	Barriers	• Few retailers (Slovenia)	• Few retailers	• Few retailers (Belgium) • Social barriers (Italy) • Structure not ready (Austria)	• Lower competition • Social barriers • Switching rate low
Cooperation	External partner's activity	• Communication (Czech Republic)	• Campaign organization (UK)	• Communication and negotiation with the suppliers (Austria, Belgium)	• Communication (Denmark)
Configuration	Critical demand features	• Market and consumer interest.	• Market and consumer interest • Interested at governmental level (UK)	• Consumers interest • Skepticism of the market (France).	• Market closed • Criticism from media and politician. (Denmark)
Capability	Platform extension	• Platform used for other sectors (Czech Republic) • Investments to replicate CS into other sectors (Slovenia).	• Platform used for other sectors	• Platform used for other sectors (Italy).	• Platform not adapted to other sectors (Denmark, Spain)
	Internal resources and capabilities of the intermediary	• Platform not internalized	• Technical process internalized.	• Structure not ready for more consumers (Austria) • Internalized the platform (Austria, Belgium, Italy)	• Platform not internalized (Denmark) • Outsourced technical support
	Investments in accessibility of the service	• Campaign for offline consumers (Slovenia)	-	• Investment to reach low-income households (Belgium)	-
Change	Main changes in the BE due to the introduction of the CS	• New intermediaries • CS in other sectors (Czech Republic)	• CS internalized at the governmental level (UK) • Renewables (Netherlands)	• New intermediaries • Renewables (Belgium, France) • CS in other sectors (Italy)	• No other intermediaries • No renewables

Source: authors' elaboration

Table 4 provides aggregate results in order to understand the various stages of development of the energy BE in face of the 6C framework. Following Rong et al. (2015) it is possible to clusterise the 6C framework into three groups.

The first group includes context and cooperation. This group reflects the specific features of the active intermediaries, the structure and the networking dynamics of the BE.

With the exception of Czech Republic and Slovenia, the intermediaries own a high expertise in the sector, being active since about the '60s (Table 3 and 4). They hold a strong reputation and have a cumulated experience that might lead the BE to the maturity stage. As consumer associations, they pursue the same mission: consumer protection. All the intermediaries collaborated with PrizeWise, which provided the technical support, and 5 of them (Austria, Belgium, Czech Republic, Denmark and UK) required collaborations for enhancing the communication efficacy.

The two stages of origin and development are characterised by similar structural and behavioural aspects in the analysed countries. In order to underline the differences, we observed that the Czech Republic and Slovenia markets are smaller than in the UK and the Netherlands. Moreover, Czech Republic represents an exception in terms of number of retailers (which is higher than in other countries). Generally speaking, the concentration is high and consumers welcome the EPI.

The BE re-orientation stage is characterised by a larger number of energy suppliers (with the exception of Belgium). In Italy, there is a lack of trust, because, despite the good reputation of Altroconsumo, consumers are afraid to lose their surplus by switching supplier. In Austria the consumer association was not ready to handle a large number of consumers, thus reporting also internal barriers.

BEs in the decline stage are characterised by the presence of few retailers, each of which own a large part of the market share, lowering the competition and dramatically reducing the willingness to participate in a CS campaign. In Denmark, the switching rate is low because consumers are generally not inclined to change energy supplier.

The second group comprises configuration and capability[5]. We considered the critical demand features, the platform extension, the internal resources and capabilities of the intermediary, and the investments in the accessibility of the services provided. For the first campaign, none of the intermediaries had the technical expertise to develop a CS campaign. The BE at the origin and development stage shows a growing consumer and market interest, which, in the case of UK, was supported also by the intervention of the government.

The platform extension to other sectors characterises mainly BEs in the development stage, with the exception of Czech Republic, where this tendency is present since the origin stage. Some consumer associations, after the first auction, decided to internalise the process; it is the case of Austria, Belgium and Italy (BE re-orientation stage), as well as the Netherlands and the UK (BE development stage). In order to professionalise the entire process and its strategic development, each consumer association allocated dedicated human resources to each auction. Belgium and Slovenia are the only two countries that organise campaigns for the offline consumer, increasing the accessibility of the service.

In the BE re-orientation stage, only Italy extended the use of the platform to other sectors (fuel, mobile telephony, two-wheel drive and low-impact motorcars campaigns). In the BE decline stage, the media and the politicians look with criticism at this EPI; in the case of France this happens already in the re-orientation stage.

In the BE at the decline stage, the platform used for the CS campaign is not used in other sectors, with the exception of Portugal, which organises other campaigns for tablets, oil, diapers, pets food, health plans, solar panels, bank deposits, air conditioning, baby seat and tires.

The third group shows the changes in the BE after the introduction of the CS. In the case of BE at the origin stage new intermediaries enter the CS business organizing new campaigns. In Czech Republic the practice was also diffused in other sectors. In the development stage, CS becomes an

[5] Rong et al. (2015) included in this group also the construct element. In our case, we decided not to include it because it is the same for all countries.

alternative way to change energy supplier, and, in UK, which is the country where this practice is more mature, it is even internalised at the governmental level. In the re-orientation stage, other intermediaries start to organise CS campaigns, also specialising in specific projects, such as in the case of Belgium, France and Italy, which organised campaigns on renewables, or extend the use of the platform to other sectors, as in the case of Italy.

In the BE at decline stage, no other intermediaries decided to organise CS campaigns and campaigns for renewable are absent. In Denmark, the ecosystem collapsed because the partner decided not to continue the collaboration with the intermediary, which did not have the capability to internalise the process.

However, in each country, with different intensity and in different ways, CS put some pressure on the market and its players towards a general improvement in the services offered by the incumbent retailers to consumers and in the process of pricing.

6. Discussion and conclusion

In this article, we analyse, with extensive case studies, the main features of a BE that might affect the development of an EPI and the role of intermediaries from the perspective of the dissemination of a new EP. In particular we investigated the way in which the intermediaries overcome social and cultural barriers as well as their ability to interact with other actors of the BE. The BE concept, more traditionally related to digital or technology-based sectors, is adapted here to the energy sector.

Through eleven case studies, we analyse the key variables that, in different ways, influence the development and the dissemination of the EPI in different stages of the BE lifecycle. We adapted the 6C model, initially proposed by Rong et al. (2015) for the IoT companies, to the energy sector. The EPI under scrutiny is the CS.

The comparative case study analysis informs of the importance of context and cooperation to analyse the structure of the BE. In particular, the most relevant factors to take in account, in order to

identify a successful policy development, are related to: 1) the experience cumulated in the past by the intermediary organisations; 2) the number of energy retailers, and consequently the level of competition in the sector; 3) the existence of external partners needed to develop the web platform.

Configuration, construct and capability are the most dynamic aspects to focus on for understanding the modalities through which it is possible to sustain the diffusion of the EPI. In particular, our analysis pinpoints the crucial role of the following facts: 1) the marketing investments capacity of the intermediary (necessary to overcome social and market barriers), 2) the level of engagement both from the supply and the demand side (the highest the better), 3) the ability of the actors involved to conduct a 'post switching' management (in order to monitor the efficiency of the switching process), and, finally, 4) the ability of the intermediary to replicate the process in other sectors (reaching economies of scope from the use of the platform).

The last component of the framework analysed is change. By investigating the relationship between the BE lifecycle stage and the propensity to sustain the change, we concluded that in the early stage of the BE the main fact is the emergence of new intermediaries, while in the phases of development and re-orientation, specialised campaigns (mainly dedicated to renewables) and web platforms extensions increase the complexity of the BE and improve its performance. When the number of intermediaries shrinks, the number of campaigns is reduced, and the amount of investments for the development of the web platform is low, the BE declines.

Our work contributes theoretically and empirically to research on the diffusion of a policy innovation in a BE. It does so by confirming the validity of the 6C framework as a tool for deepening our understanding on the functioning of the BE and its capacity to react to the introduction of a EPI. Moreover, it illustrates the usefulness of adding the lifecycle perspective to the analysis of the evolution of the BE, and suggests to incorporate this evolutionary approach in the 6C framework. More generally, this is the first attempt to analyse the conditions under which an EPI, such as the collective switching, can spread through different BEs. The cross-country analysis reinforces the idea that 'one solution fits all' does not apply to the analysis of the penetration of the

EPI. Important differences between countries must be acknowledged in order to orient policy interventions towards a sustainable energy system. Based upon the eleven case studies across Europe, we claim that there is a broad consumer distrust of the players in the electricity and gas retail market. The lack of complete, understandable and comparable information makes the switching rate low. Building this trust providing complete, understandable and clear information is essential. However, how is it possible to facilitate the engagement of consumers in the energy market? We think that there might be different alternatives: 1) Policy makers and National Regulatory Authorities (NRAs) might further analyse different consumer groups and stimulate consumer active participation in energy markets; 2) The European Commission might further analyse roles and responsibilities of existing and new market players, their relationship with and impact on consumers; 3) Regulators might monitor consumer sentiment about a range of issues such as the ease of finding information suitable for carrying out a price comparison or the switching process itself; in particular they might develop a standard information form, similar to the one already used in the financial sector, to facilitate comparability of energy offers; 4) Suppliers might promote a consistent approach to ensure that consumer protection safeguards are in place, and to facilitate CS schemes that meet consumer interests.

The 'Clean Energy for All Europeans', a new package of measures with the goal to provide a stable legislative framework, to facilitate the clean energy transition and to provide a fair deal for consumer, presented by the European Commission, might be a first step of a long path towards the energy efficiency.

Nonetheless, this work has some limitations. First, concerning the data source, the fact that in Austria, France and UK consumer associations, involved in the CS campaigns, decided not to participate to the interview represent a limit in the richness of the information gathered. For those countries, in fact, case studies are developed using the information available on the intermediaries' website, integrated with information from the BEUC. Second, we considered only BEUC consumer associations' members as intermediaries. This decision is taken because of data availability issues;

however, it might be interesting to analyse also other intermediaries' behaviours with the aim of investigating analogies and differences regarding the way to reach consumers and manage partners. In future research, additional information should be collected to better-analyse the context. Additional interviews with energy suppliers and consumers might be conducted in order to reach a more comprehensive picture. Third, the analysis could also include the role of other stakeholders that contribute to the BE development. Finally, a comparison with other sectors might be informative on sectorial differences in the diffusion of an EPI and in the ways the BE reacts to the change.

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