Private households' preferences for service bundles in the energy sector

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42nd IAEE International Conference, 01 June 2019, Montréal, Canada

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Motivation (I)

- German energy sector is highly competitive (BNetzA/BKartA, 2018, BDEW, 2018)
  - → Consumers on average can choose between 124 suppliers
  - → Only about 69% of households still are with their default electricity provider
  - → Almost 10% of households are switching the provider each year (~7% without relocation)
  - → Especially households with high energy consumption are switching the supplier

- Increasing degree of digitalization is stimulating the market entry of competitors from other sectors (e.g. tech/telecom companies) and enables innovative business models, e.g.
  - Battery producer (sonnen) offers flat rate and energy community
  - Email service provider (GMX) sells electricity and gas to its customers

- Energy sector is following the telecommunication sector in undergoing a comparably substantial transmission towards integrated models (Oseni and Pollitt 2017)
  - → Bundles of different services with single contract/bill from single supplier
  - → Existing first offers of such mixed service bundles from large German energy providers

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Motivation (II)

- Especially the numerous small municipal utilities in Germany (also providing services of general interest) are having difficulty dealing with these market developments
  However: They also have great potential as they traditionally cover a wide range of services (e.g. energy, water, public transport, public swimming pools, parking garages, telecommunication)

- Research activities on households' preferences for product/service bundles in the energy sector are still scarce
  → Our study is among the first to scientifically investigate the motivators for switching to a mixed (cross-sectoral) service bundle including energy, based on empirical data

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Research goals

- Examine the attractiveness of integrated service bundles (e.g. comprising electricity, gas, telecommunication, public transportation) from private households' point of view

- Identify characteristics of the private energy consumer segment which has greatest intention to switch to a bundled tariff
  - Socio-demographic and household characteristics
  - Attitudes and knowledge/familiarity
  - Attribute preferences
  - Information and communication channels

- Quantify their influence on decision making process

- Describe the implications for marketing strategies of energy suppliers

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Data and methodology

Data

- Survey carried out in April and May 2017 among 100,756 customers of seven municipal utilities mainly located in Southwest Germany

- Aimed at assessment of energy-related products/services: service bundle, smart home, domestic microgeneration, and P2P electricity trading/energy communities

- Distributed in paper-pencil version and web-based version

- Supplier-specific response rates ranged from 1.3% to 21.2% (depending on means of delivery) with an average of about 7%

- 7,006 completed questionnaires in total; 3,677 completed surveys available for analysis

Methodology

- Binomial logistic regression to assess differences between interested and uninterested consumer segments of service bundles

  - Dependent variable: Probability of switching to a service bundle in the upcoming two years, ranging from '(very) low' to '(very) high' (aggregated 5-point Likert scale; without consideration of respondents who chose the 'neutral' option)

Results (I): Purchase intention of service bundles

	Estimate	Std. err.	P value
Constant	-8.4051 ***	0.4674	0.0000
Household characteristics			
Prosumer	-0.4056 **	0.1282	0.0016
Number of persons in household	0.0746 *	0.0371	0.0444
Residential location: City	0.2311 *	0.0910	0.0111
Bundle-related preferences			
Importance of short contract duration	-0.0838 *	0.0385	0.0292
Importance of long price guarantee	0.1510 **	0.0582	0.0095
Importance of monthly flat rate	0.2281 ***	0.0367	0.0000
Importance of simplified handling	0.2536 ***	0.0496	0.0000
Preferred supplier: Energy provider	0.4931 ***	0.0594	0.0000
Preferred supplier: Internet/tech company	0.1795 ***	0.0447	0.0000
Knowledge and attitudes			
Knowledge about service bundles	1.5317 ***	0.0860	0.0000
Attitude towards regional production	0.1381 **	0.0510	0.0067
Support of energy transition	-0.1151 **	0.0435	0.0082
Energy-related behavior and intentions			
Current rate: Eco-power	-0.2003 *	0.0919	0.0293
Purchase intention: Smart home	0.5981 ***	0.0385	0.0000
Information and communication channels			
Information: Comparison portal	0.2110 *	0.0914	0.0209
Communication: Customer center	0.1297 ***	0.0390	0.0009
Communication: Social media	0.1760 ***	0.0381	0.0000
No. of observations		3,677	
Log likelihood at zero LL(0)		-4,937.07	
Log likelihood at convergence		-3,571.30	
Adjusted McFadden's $\rho^2(0)$		0.269	

Notes: ***, **, * indicate significance at the 0.1%, 1%, and 5% level

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Results (II): Purchase intention of service bundles

Average marginal effects (descending order)

	Estimate	Std. err.
Knowledge about service bundles	0.2450	0.0115
Purchase intention: Smart home	0.0957	0.0054
Preferred supplier: Energy provider	0.0789	0.0092
Prosumer	-0.0649	0.0204
Importance of simplified handling	0.0406	0.0078
Residential location: City	0.0370	0.0145
Importance of monthly flat rate	0.0365	0.0058
Information: Comparison portal	0.0338	0.0146
Current rate: Eco-power	-0.0321	0.0147
Preferred supplier: Internet/tech company	0.0287	0.0071
Communication: Social media	0.0282	0.006
Importance of long price guarantee	0.0242	0.0093
Attitude towards regional production	0.0221	0.0081
Communication: Customer center	0.0207	0.0062
Support of energy transition	-0.0184	0.0069
Importance of short contract duration	-0.0134	0.0061
Number of persons in household	0.0119	0.0059

Summary and conclusions (I)

- Low importance of socio-demographic and household characteristics in explaining differences between purchase intention of consumers

- High explanatory power of knowledge and likelihood to purchase smart home product

- Most promising target group for service bundles are consumers that are

  - Placing higher importance on simplified handling, flat rates, and price guarantee than short contract duration or price discounts

  - Using comparison portals more often as energy-related information channel

  - Living in larger households (higher energy consumption) and urban areas

  - Less environmentally aware (prosumer, eco-power, support energy transition) but more likely to favor regional production

  - Preferring customer centers and social media as communication channels with energy providers

- Most likely provider consumers would purchase from is (municipal) utility
  However: Internet/tech companies also significantly more often selected by interested customers

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Summary and conclusions (II)

Service bundles are currently of interest to about 1/3 of respondents in our sample
→ Interesting means to gain and retain customers

- Who might otherwise switch to internet/tech companies (smart home, digital services)
- By increasing hurdles to switch (number of bundled services, contract duration) and decreasing informed choices (lower comparability)

Marketing efforts of (incumbent) publicly-owned regional/municipal utilities should therefore

- Create information campaigns (own website, public) to increase knowledge (main driver for purchase intention), as service bundles are not supported by comparison portals yet
- Use positive consumer evaluation (reliability), local/regional presence and great bandwidth of own service portfolio for development of new bundled products/services
  →Promising additional bundling option: smart home products
- Aim at larger and less environmentally aware households
- Create bundles focusing on convenience, flat rates, and long price guarantee
- Set up digital communication channels (apps, social media) but not at the expense of established ones (phone, mail, customer center)

Future research

- Detailed follow-up survey focusing on specific bundles, pricing schemes

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Thank you for your attention!

Questions?

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