Balancing the segmentation and behavioral principles towards acquiring customer insight.

Case of household management services and products.

Jozef Bucko¹, Emil Exenberger² and Jana Héjjová³

Abstract

Digitalization and decentralization within the energy market provide consumers with new opportunities. The trend consequently requires the transformation of energy suppliers’ portfolios beyond energy supply and towards overall household management within business to the customer market. This segment is especially challenging due to its size and variability in habits or behavior related to household management, which includes not only energy supplies but also insurance issues, appliances operations, and service. This study examines, customers’ behavior and their responses to offers of products and services related to household management based on an intrapersonal factor of “age” as an easily accessible and precise type of data about consumers. Dataset examined contains data of customers, who were addressed repeatedly during 24 months from 2019 until 2020 by e-mail offers from a supplier of products and services related to household management. Our results show, that even the age needs to be combined with other factors influencing the decision-making process, it involves the potential to provide vendors insights to improve their targeting and increase the effectiveness in communication with customers.

Keywords: Digitalization; targeting; direct e-mailing; household; energy; customer behavior

JEL Code: C12, M31, M37

Introduction

Digitalization and decentralization have enabled significant growth of the shared economy represented by Peer-to-Peer (P2P) models such as e.g.: Uber, Bolt, Airbnb. Price Waterhouse Coopers estimates that global revenues from sharing in just five sectors: travel, car sharing, finance, staffing, music and video streaming - will increase from $15 billion in 2015 to $335 billion by 2025.

The trend of digitalization and decentralization does not exclude energy sector and points more attention to lowering related intermediary costs of measuring consumption, accounting, administrative fees, IT or bank fees. Technology provides households or small businesses tools to produce energy (e.g. solar panels) and increases their independency. This triggers changes in the energy supply model, which goes hand in hand with changes in the end users' needs related to energy consumption. The trend develops pressure on energy companies’

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transformation and forces them to search for new sources of income reflecting the needs of customers related to household management.

As digitalization and decentralization in the energy sector are accompanied by production and usage of quantum of data generated in each moment of supplier - customer interaction, data become an available valuable asset after being transformed into insights and applied in direct marketing properly.

The study deals with data on customer responses to various types of propositions related to household management. It examines patterns in customers’ reactions to offers of products and services based on the demographic factor of age.

The research uses data about customers in Slovakia. Due to the knowledge on Country-of-Origin aspect, the country where product or service is produced impacts consumer behavior and decision making (Guilhoto, 2018; Maurya and Gupta, 2015). When a product or service is complex such as services related to house management, the consumer is more likely to incorporate Country-of-Origin aspect into their decisions (Walley, Cheng, Liu, 2019). Therefore we consider the results of the study to have a potential of effectively covering at minimum the area of Central European region regarding the common history and presence of several common cultural features. Market globalization and appearance of similarities in consumers’ behavior has been supported in the last few decades due to factors, such as: the collapse of communism, global opening of previously closed markets in India, China, Eastern Europe, and Latin America, worldwide investment and production, increases in world travel and consumer sophistication, advances in telecommunication technologies, and the growth of global media (Steenkamp 2017).

The results are applicable in the area of monetizing services related to household management emerging hand in hand with digitalization of energy sector. To the best of our knowledge, the question of providing value that consumers would be willing to pay for, hasn’t been successfully resolved yet in the area of such services. This supports the study published in 2019 by Cambridge university (Küfeoğlu et al., 2019), which evaluated utilizing the energy sector digitalization primarily within startup projects. The study investigated 40 biznis models from over the world. Despite the offer of innovative services, the study expresses doubts towards the sustainability of such projects in long term. As their weakness, it has currently been identified their value and benefits, that a customer would be willing to pay for.

This area still seems to be not sufficiently explored, but related to millions of households. Deeper knowledge on their decision making would be supportive towards further implementation of modern technologies into household management.

The current state overview

How foreseeable is consumers’ behavior in online

Developments in technology have fueled the growth in the availability of information online, the proliferation of social media platforms, and the growth of e-commerce. Especially the introduction of social media through Facebook and the introduction of smartphones made technology more immersive in people's lives and these technologies have paved the way to a massive increase in data (Alokla et al., 2019). This has led to consumers increasingly spending their time online and discovering the convenience of online shopping (Zuberi, Rajaratnam,
In 2020, e-retail sales accounted for 18 percent of all retail sales worldwide, and this figure is expected to reach 21.8 percent in 2024 (statista.com).

The changes in consumer behavior have reined the retailers to dig into the psychology of the virtual consumers over the decade. Huge investment to grasp virtual consumers has induced the online sellers to go no further towards the understanding of consumer behavior (Ramayah, Ignatius, 2005). The difficulty of decoding online consumer behavior is complicated by zero physical interaction during the transactions. (Jiang, Chen, & Wang, 2008; Mukherjee, Nath, 2007). And although both government and private sectors have put in much effort to prosper the virtual shopping platform, the traditional store remains as the instinctive choice for a majority of consumers. (Ramayah, Ignatius, 2005). However, the role of e-commerce is not just about the transaction of purchase itself as the omnichannel purchasing process needs to be taken into account. According to Franson and Dennis (2018), “there is no such thing as pure e-commerce anymore, it is all just commerce.” They claim that for retailers such as Neiman Marcus, Nordstrom, and Target, “60% of brick and mortar store sales are influenced by a digital channel.” Customers might research online and shop in a brick and mortar store, research in a store and shop online or expect a store to be available for sales returns and repairs. Usually, businesses do not use only one marketing channel to get the customer. These channels, in most cases, work in a cohesive way that contributes to the customers’ acquisition (Kakalejčík et al., 2020). In regards to completing the purchase, this makes their behavior situational and difficult to predict, which supports the trend and necessity of providing them with an omnichannel experience on the topic they are interested in.

**Why bother with targeting, when online marketing is cheap**

Over 250 billion e-mail messages were sent and received each day during 2018. This means that one human being received over 30 e-mails per day and the number would rise after excluding groups with limited access to e-commerce (e.g. children). Out of these messages 45% were categorized as spam and even it could seem easy to get rid of unwanted e-mail, in reality, participants face several problems and barriers when they try to unsubscribe (Dev, Rader, Patil, 2020). Users struggle to manage unwanted e-mail, leaving them with a sense of decreasing control over their inboxes. This generates frustration and reluctance towards the content presented, especially when a customer is repeatedly addressed by e-mails perceived by her as irrelevant. Search to understand the process through which e-mail campaigns influence consumers’ attitudes and behavior becomes more important (Hanliang et al., 2020).

Digital marketing is no exception when it comes to applying basic general marketing principles. It is most successful when personalized and well-targeted (Huang, Tsui, 2016). The mailing list and targeting are considered to be the most important in terms of communication effectiveness. The impact of mailing list’s relevancy on the result of a campaign reaches 40%, followed by offer with 30% then layout and copy both presented by 15% impact (Bly, 2019).

There is a variety of ways of processing the data, but they usually have in common the categories of parameters, which can be broadly classified as geographic, demographic, psychographic, and behavioral (Bhade et al., 2018). But still, mastering personalization has its limits and needs to be employed properly reflecting customers’ perception of trust and privacy boundaries. Greater personalization typically increases service relevance and customer adoption, but paradoxically, it also may increase customers’ sense of vulnerability and lower adoption rates (Aquirre, 2014).
The pace of increasing number, not just products, services but ways how to obtain them, is accompanied by an increase of variability and unpredictability of customers. Understanding customers’ behavior is inevitable, but needs to be kept on a reasonable level of the cost related to data processing and obtaining customer insights. Therefore it is relevant for vendors to search for patterns related to numerous groups described by the accessible type of data, which on the other hand would not be perceived by a customer as too intimate and develop distrust preventing them from a transaction.

The study deals with data on customer responses to various types of propositions related to household management. It focuses on patterns in customers’ reactions based on the demographic factor of age to improve the targeting and providing customers with information of higher relevancy. Based on the widely-accepted belief that aging is a multi-dimensional process, older people are likely to experience the various aging processes differently due to the wide variability across individuals (Sthienrapapayut, Moschis, Mathur, 2018). Therefore age needs to be considered within the complex of factors as changes in behaviors during a person’s life are the results of adaptation and adjustments to life changes, not just aging itself. However, examination of consumer responses to marketer-controllable variables (e.g., pricing, sales promotions) of companies in different countries and specific industries, and how the various gerontographic segments respond to these variables, could provide useful guidelines for strategy development, as it has in the United States (Moschis, 2003; Moschis et al., 1997).

**Data description and research methods**

Data consist of 198 466 records about sent e-mails to customers, which were addressed repeatedly during 24 months from 2019 until 2020 by e-mail offers from a supplier of products and services related to household management. Data is acquired as a result of a real offering process towards persons who act as decision-makers within households in Slovakia. It contains different types of households such as located in the cities as well as in rural areas, flats within residential buildings as well as family houses, also dwelling types with different number of household members. In this study, we depict a demographic factor of age as an easily accessible and precise criteria to extract knowledge on a customer’s behavior when making purchase decisions.

The categories analyzed include service information related to the use of services and products (manuals, tips, reminders to change spare parts, etc.), payment information such as electronic invoices, and offers of products and services (gas supply, insurance, paid package of extra benefits).

We divided e-mails sent into 17 categories listed in the following table:

**Table 1. The categories of e-mails (Source: Authors’ processing from dataset)**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Operation</td>
<td>Confirmation related to purchasing of a product or activation of a service, notification of delivery of free of charge regularly exchanged component for an appliance, information about changes in service hours in touchpoints (call center, shops), notification related to technical breakdowns related to restrictions in e-services.</td>
</tr>
<tr>
<td>B. Electronic invoice</td>
<td>Regular invoice related to energy and other services supply.</td>
</tr>
</tbody>
</table>
### Competitions for customers aimed at support of an engagement.

### Newsletters providing customers tips, how to make household management easier.

### Customer program, providing discounts on goods and services sold by 3rd parties.

### General e-mail newsletters such as: Christmas wish, information about new products and trends related to household management.

### Offer of paid service.

### Insurance related to household.

### Gas delivery.

### Offer of a product.

### Customer feedback collection.

### Offer of free of charge electronic services (electronic invoice, platform for administration of payments for services, application providing detailed overview on energy consumption).

### Offer of free of charge electronic diagnostics of household aimed at increase of security, comfort, and savings related to household management.

### Offer of a product.

### Free of charge application supporting healthy lifestyle and support of regional sports clubs.

### Offer of a product.

### Offer of free of charge service.

This analysis points at the relationship between customers’ age and topics they are interested in as the feature of the age meets the following criteria:

- Data accessibility within standard interaction between supplier and consumer, which do not underlie General Data Protection Regulations (GDPR).
- Potential to cluster customers with similar needs into a reasonable number of target groups.

As we examine customers’ behavior related to household management, the data set contains customers aged 18 to 100, who are considered as potential owners of the property.

The analysis follows the authors’ previous study (Hejjova, Exenberger, Bucko, 2021) which inquired the general interest of customers in e-mail offers in relation to age. The current study dives deeper and investigates the relationship between age and topics related to household management. It examines customer responses to various types of propositions related to household management. It examines patterns in customers’ reactions based on the demographic factor of age and deals with the hypothesis:

**HYPOTHESIS 1**: There is no statistically significant correlation between age and click rate within the categories of products or services offered to customers via direct e-mails.

The authors’ previous study resulted in finding that there is higher responsivity in the group of customers over 53 years than in the group of customers aged under 53 years. Within the customers over 53 years old, there is a bigger portion present of those, who open the e-mails.
and react in the way expected by the vendor. This has led to the establishment of the following hypothesis:

**HYPOTHESIS 2:** Customers aged over 53 reflect the offer for a change of gas supplier less than the younger group.

In this study, the “click rate”, which represents the ratio of customers clicking on the active link placed in an e-mail, is used as an indicator of interest. The link mentioned directs the customer to the vendor’s website with more detailed information about the product or service presented, therefore we assume that the click reflects the customer’s interest in the content of the e-mail.

The study is aimed at rejecting the hypotheses 1 and 2 based on the outcomes of the following research methods:

*Logistic regression*

As data consist of one category and one numeric variable, we applied logistic regression to explain the relationship between age and the probability of a customer’s response to an e-mail offer. Customers were divided into the training group (80%) and the testing group (20%).

Logistic regression is conducted by glm() order in the R program. Additionally, we needed to test the appropriateness of the model. Through the logistic regression model, we predicted the values `click_count_logical` for our testing group. R program used command `predict()`.

*Shapiro-Wilk test*

If prediction would be precise to a statistically significant extent, segmentation based on age would be meaningful. In case, it would not be possible to predict customers’ responses due to their age, it is necessary to investigate the presence of a statistically significant difference between the age of customers responding to e-mail messages and customers not responding to e-mail messages. Based on the results of normality tests, the choice of appropriate statistical test would be made. If data on customers’ age come from normal distribution *Anova parametrical test* would be applied. If not, then *Kruskal-Wallis non-parametrical test* would be used. To test the normality of the data we applied the Shapiro-Wilk test to check the null hypothesis: Data are not normally distributed.

*Pearson’s Chi-squared test*

We will perform Pearson’s Chi-squared test to analyze dependency between 2 categories - age category of customers (younger and older than 53 years) and whether they open links in e-mail or not.

**Results**

*Relationship between age and the probability of a customer’s response*

The logistic regression model predicted that no one out of the testing group did respond to an e-mail offer and reached a prediction accuracy below 60%. We therefore assume, there is no pattern in expressing interest within specific themes related to household management due to age. From the output of the Shapiro-Wilk test, the p-value turns out to be less than 0,01. Hence we reject the null hypothesis in advance of the alternative one: Data are not normally distributed.
**Statistical significance of the model**

As the data are not normally distributed, we use the **Kruskal-Wallis test** (Hollander, 1973) to test the null hypothesis: All of the population distribution functions are identical. From the output of the Kruskal-Wallis test, p-values turned out to be less than 0.01, which means that the model selected is statistically significant. A low level of p-value suggests a strong association of the customers’ age with the probability of click on the link in the email. Hence we reject the null hypothesis in advance of the alternative one: At least one of the populations tends to yield larger observations than at least one of the other populations. It means that there is a statistically significant difference between customers who respond and those who do not respond to e-mail offers related to household management. The difference is identified and described by employing descriptive statistics.

**Dependency between age and interest in the offer**

To test the dependency between age and expressing interest in the content of the offer through clicking on the link in an e-mail, we performed a Chi-Squared test to evaluate the hypothesis:

**Null hypothesis:** There are no relationships between the categorical variables. Knowing the value of one variable does not help to predict the value of another variable.

**Alternative hypothesis:** There are relationships between the categorical variables. Knowing the value of one variable does help in predicting the value of another variable.

After performing Pearson’s Chi-squared test with Yates’ continuity correction in program R we get value of X-squared = 47,756 and p-value = 4.827e-12. Since we get a p-value of less than the significance level 0.05 (p-value = 4.827e-12), we can reject the null hypothesis and conclude that the two variables are dependent. To evaluate if the association between age category and whether customers open link in e-mail or not, we calculated Pearson residuals representing Chi-squared statistic for each cell using Formula 1:

\[ r = \frac{o + e}{\sqrt{e}} \]  

(1)

where \( o \) representing observed value and \( e \) representing expected value by Chi-squared test.

**Table 2.: Chi-squared test values**

<table>
<thead>
<tr>
<th>age category</th>
<th>Observed values</th>
<th>Expected values</th>
<th>Pearson residuals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>click count logical</td>
<td>click count logical</td>
<td>click count logical</td>
</tr>
<tr>
<td>&gt; 53</td>
<td>FALSE</td>
<td>TRUE</td>
<td>FALSE</td>
</tr>
<tr>
<td></td>
<td>16 741</td>
<td>464</td>
<td>16 843,55</td>
</tr>
<tr>
<td>&lt;= 53</td>
<td>27 855</td>
<td>493</td>
<td>27 752,45</td>
</tr>
</tbody>
</table>

*Source: Authors’ calculations*

Table 2 shows observed values, expected values by Chi-squared test, and Pearson residuals calculated as Chi-squared statistics for each cell. Due to Pearson residuals, we can assume that there is a strong positive association between customers with age higher than 53 years and opening link in e-mails (representing by positive residual value 5,394) and a strong negative association between customers with age lower or equal to 53 years and opening link in e-mails.
Balancing the segmentation and behavioral principles towards acquiring customer insight.

(representing by negative residual value -4.202). It means, that there is a higher probability of opening link in e-mail for customers older than 53 years.

Based on the results of the analysis we focused on categories A to J, due to the relevancy of outcomes mainly because of the lower countability of customers who received the e-mails within categories K to R.

The histogram in Fig. 1A describes customers’ responsivity towards service e-mail containing information related to the usage of products and services, e.g.: reminders for a free of charge change of an appliances’ component, technical difficulties, confirmations related to exploiting prepaid benefit, request for contact data update.

The histogram in Fig. 1B describes reactions to electronic invoices. The reason for not opening by 100 % of customers, even there is the necessity to pay, is that about 90 % of customers pay for the electricity, gas, water, TV through aggregated bills administered by Slovak Post (SIPO payments), which automatically includes the results of a yearly invoice, therefore the invoice has more of an informative function. The histogram in Fig. 1C is related to competitions aimed at enhancing the engagement of customers and due to its purpose is similar to the interaction visualized in Fig. 1E, which is related to shopping discounts at third parties. Both activities provide customers with some kind of material value, either possibility to win a product or buy it at a better price. Fig. 1D on the other hand presents interest in the content of informational value related to homecare tips for customers with an active paid package of household services. Fig. 1F includes responses to general content with a low level of targeting such as Christmas wishes or general information about vendors’ activities.
Fig. 1. Density histograms

Source: Authors’ calculations
The results support the observation that within customers over 50 years old prevails the group of responsive customers due to the more free time available and put more detailed attention to household management.

**Fig. 2.** Density histogram – Paid package of household services

Sample = 9490
Logistic regression p-value = 4.41e-10
Prediction accuracy = 55.43%
Shapiro-Wilk test p-value = 1.90e-26
Kruskal-Wallis test p-value = 1.14e-26

*Source: Authors’ calculations*

**Fig. 3.** Density histogram - Insurance

Sample = 2700
Logistic regression p-value = 2.30e-01
Prediction accuracy = 49.81%
Shapiro-Wilk test p-value = 8.18e-23
Kruskal-Wallis test p-value = 2.59e-01

*Source: Authors’ calculations*
Fig. 2 relates to the offering of services packages for households providing the benefit of making household management easier. It is a package with no precise targeting, as making household management easier is expected to be attractive to any property owner.

On the other hand, as it requires more time and thought of a customer to evaluate than e.g. offer of a specific appliance such as boiler, this can make a difference between responsivity based on age in advance of 55 years plus customers who we assume have more time to put attention to e-mails. Results related to insurance products shown in Fig. 3 do not provide clear evidence supporting the significantly higher interest within any age interval. The dataset includes responses related to the insurance of property and helps in unexpected emergencies concerning a property. But as described in previous research, there can be a group of higher aged customers whose e-mails are managed by their children. Insurance and resolving unexpected emergencies such as broken washing machine, fridge, leaking taps, broken window, locked door, etc. in the way which spares time and finance is attractive not just for the households of busy people in their 40-ties but also for households of their parents, who they need to take care of.

**Fig. 4.** Density histogram – Gas Supply offer

The histogram in Fig. 4 describes the reaction to gas supply based on discount and advantageous price. The group aged over 50 is significantly more interested. We assume that there is a bigger share of the households using natural gas for heating or water heating in houses built 20 – 30 years ago, where the monthly bill can exceed the yearly bill of usage of the natural gas only for cooking, which is typical for older apartment blocks in the cities.
Also, the macro trends of sustainability combined with the gas crisis in Slovakia in 2009/2010 supported the trend of implementing alternative heating solutions such as electricity, electricity from sustainable sources, or heat pumps in currently built houses. The indicators studied and their trends show that European inhabitants live in bigger houses but spend less in energy per capita and even less when their income is higher. This decreasing trend could be because they have access to more efficient housing and appliances, improving energy efficiency (Serrano et al., 2017).

Fig. 5 shows the results related to boiler offer show the number of responding customers is higher in a non-responsive group within intervals of 27 to 30 years old and in the group of 46 to 56 years old people. In the group of property owners, we assume that this is related to the age when people establish their first household, even in this case gas alternatives are preferred, or they make an exchange in the pre-retirement phase.

**Fig. 5.** Density histogram – Boiler offer

![Density histogram](image)

Sample = 10022  
Logistic regression p-value = 2.65e-01  
Prediction accuracy = 51.15%  
Shapiro-Wilk test p-value = 6.96e-24  
Kruskal-Wallis test p-value = 1.76e-01  

*Source: Authors’ calculations*

**Limitations**

The main limitation of the study is that customers’ behavior and decisions related to household management are a set of combined and correlating factors. Aging is among them, but it is a multi-dimensional process involving and reflecting changes in behaviors during a person’s life as the results of adaptation and adjustments to life changes, which can be of wide variability across individuals. Also, the research examines the e-mail offer related to household management, therefore should be applied cautiously in case of another type of products or
services e.g. cosmetics, hobbies. Due to the extensity of potential customers and products’ relevancy to most of the adult population, finding a pattern to improve targeting is of significant importance.

The research should take into account further variables reflecting customers lifestyle such as more or less free time, ability to make or repair things on their own, level of income or number of family members, the personality of a decision-maker influencing the way the person approaches the purchases in general, etc. The data listed are not of the same availability for the vendors, but to get closer to some pattern in customers’ responses other variables accessible to services providers need to be examined, which opens the space for further research.

**Discussion and Conclusion**

This study has focused on the correlation between age and topics, that are the most relevant within specified age groups. Based on the results, the Hypothesis 1, that there is no statistically significant correlation between age and click rate within the categories of products or services offered to customers via direct e-mails, is not rejected.

The results comply with the authors’ previous analysis (Hejjova, Exenberger, Bucko, 2021), which focused on the general responsivity of customers to e-mail messages related to household management due to their age and left out responsivity to specific topics. It provided the finding that there is higher responsivity in the group of customers over 53 years than in the group of customers aged under 53 years. Within the customers over 53 years old, there has been a bigger portion present of those, who have opened the e-mails and reacted in the way expected by the vendor. According to the current study, the group of customers aged over 50 years manifests higher responsivity to offers in 8 within 10 examined categories listed in Table 1. The results show as exceptions the categories H (insurance offer) and J (boiler offer).

The study doesn’t provide supporting evidence for Hypothesis 2, that customers of higher age reflect the offer for a change of gas supplier less than the younger group. We consider it to be an outcome of the significant changes in approach to housing. The increase in new technologies accessibility has been resulting into implementation of alternative heating solutions such as electricity, electricity from sustainable sources, or heat pumps, which have been replacing gas heating solutions in currently built houses.

We are aware that the intrapersonal factor of “age” should not be considered a sufficient parameter to evaluate, predict customers’ behavior within household management and improve targeting. But the parameter of age is an easily accessible and precise type of data about consumers, acquired within standard interaction between supplier and consumer. Also, even the age is a personal information, it is not considered to be crossing the privacy boundaries and therefore does not increase customers’ perception of their vulnerability due to too precise personalization leading to lower adoption rates as noticed in related studies (Aquirre, 2014).

Our study provides insight that customers over 50 put more attention to communication-related to household management. This offers vendors navigation in investigating further aspects of the group’s lifestyle and preferences. The effect of digital communication could be also supported by using a synergy of direct mail as digital marketers have discovered that direct
mail is not outmoded as actually is it entering the renaissance (Bly, 2019). Even being slower and more expensive in comparison to direct e-mailing, direct mail desirably outreaches the effectiveness of direct e-mail when used properly and targeted accurately. Vendors need to be careful due to e-mail overload, which is supported by the simplicity and costlessness of sending e-mails, as it seems to generate customers’ reluctance towards e-mail communication.

Even there is an alternative to segmentation in the form of behavioral economy principles, which address customers’ human nature and therefore cover the majority, it could become short on preciseness in some cases. Therefore targeting based on segmentation to a reasonable extent still stays an issue despite to being a complicated, time, and cost consuming process. Both the aspects, behavioral economy and segmentation, need to be combined situationally to get the best results for both parties involved – vendors and customers.

Within energy sector, the trend of digitalization and decentralization leads to changes in the end user’s needs related to energy consumption. The question of transforming quantum of data into products and services to provide consumers a value they are willing to pay for is presently unresolved sufficiently (Küfeoğlu et al., 2019). Therefore continuity in attempts to increase personalization, improve behavioral modeling and implement the knowledge into portfolios at reasonable cost, keeps its place within current issues to solve.

The knowledge on consumers’ decision making in the specific area of household management is supportive towards further implementation of modern technologies into dwellings, which leads to increased comfort in household management but more importantly improved energy efficiency. Along with the initiatives to increase the level of energy produced by renewable resources, energy conservation and energy efficiency are priorities for governments worldwide. They have motivated intensive research over the past decade into understanding how energy is consumed, and how to translate that knowledge into meaningful information to enable energy consumers to take responsibility for their energy consumption. The topic would be the subject of our further research.

We consider the results of the study to have a potential of effectively covering the area of Central European region regarding the common history, presence of several common cultural features and the Country-of-Origin aspect.

Acknowledgements: This work was supported by the national project “Decision Support Systems and Business Intelligence within Network Economy” (Contract No. 1/0201/19) funded by Grant Agency for Science; Ministry of Education, Science, Research and Sport of the Slovak Republic.
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