

# The role of social influence in the end customer purchasing decisions on the heat market

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## Abstract

The aim of this paper is to examine the role of social influence on the end customer behaviour in the purchase of heating products in the residential segment. The study is based on interviews and a questionnaire survey of homeowners in Hungary in 2013. Respondents are open to learn about diverse innovative heating technologies, energy types and diverse heating fuels irrespective of any purchase intention. They plan their purchase based on deliberate considerations rather than facing an emergency heating appliance breakdown. Furthermore, influence of the social environment prevails at the diverse stages of the purchase process. End customers actively conduct social search (family, friends, neighbours, colleagues, other customers with purchase experience over the Internet, etc.) besides the influencing role of the installer.

## Introduction

Customer behaviour is one of the many factors that influence the market for space heating appliances (here onwards referred to as the "heat market")<sup>1</sup>. The aim of this paper is to investigate the role of social influence in the purchase decision of the end customers of the residential heat market and to identify the

most relevant social influencing factors at the diverse stages of the decision-making. The research investigates the influential information sources and the content of that information in order to reveal a continuous customer journey along the purchase process.

## Literature review

The latest megatrend research suggests that the emergence of the virtual business processes (connectivity), the increasing role of health consciousness (the appearance of new health styles, health-techs, etc.), the new consumption patterns (the spread of conscious and sustainable consumption), and the pressure of time (willingness to pay an extra charge for a better and faster service and execution) influence the social environment, which affects end customer decision-making (Rauch et al., 2010; z-Punkt GmbH Foresight Company, 2008). According to Baumgarten et al. (2010) the modern customer attitude is changing due to the new consumption patterns, where end customers are focusing on the fulfilment of their higher expectations (e.g. shopping must offer pleasure, but has to be fast and convenient at the same time) with the scarce available resources (time and money). The digital revolution and the spread of Internet offers end customers the platform to gain, share and to exchange information around the world by using diverse online communication channels, such as blogs, forums, social media, etc. This has resulted in changed information search behaviour. End customers use social search, which is a "process of finding information online with the assistance of social resources" (e.g. friends, unknown person) (Morris et al., 2010 cited in Pookulangara et al., 2011).

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1. The heat market refers to the part of the HVAC (Heating, Ventilation and Air Conditioning) market, where manufacturers produce and sell heating technology to customers to ensure indoor temperature and warm water comfort. This paper refers to the residential heat market, where heating products (heat generator appliances or boilers) are sold for single households. In this study all types of heat generating appliances are considered, regardless from fuel type and energy sources.

Research on the role of social environment on decision-making started in the 1950s, where word-of-mouth communication (WOM) has been found to have a “significant impact on the purchase of household goods and consumer choice” (Katz and Lazarfeld, 1955; Engel, 1969 cited in Gruen et al., 2006). Furthermore Arndt (1967) found that diverse social connections, so called social ties – defined as the set of social interactions between two or more individuals – influence the decision-making based on the strength of the ties. Strong ties such as family members and friends have a greater influence on the purchase decisions than weak ties such as acquaintances that end customers do not know well, particularly in case of products where the decision-making is perceived to be difficult (Duhan et al., 1997). Latest studies show that customers are using the diverse online sources for this kind of social search and are looking for online reviews, which “involve experiences, evaluations (both positive and negative) from previous consumers” (Park et al., 2008a). Many researchers have investigated the role of social influence in the decision-making across a variety of products and contexts, such as cultural influence (Vuylsteke et al. 2010, Pookulangara et al., 2011), source credibility (Bambauer-Sachse S. et al., 2013, Dou et al., 2012), consumer knowledge (Park et. al 2008b; Bambauer-Sachse S. et al., 2013), but hardly any research has investigated it relevant to the heat market.

The end customer decision-making is a widely researched area, but when it comes to the heat market only some models can be found in scientific literature. Most researchers investigated the decision-making in context with the diffusion of innovative heating technologies (Kaplan, 1999; Mahapatra et al., 2008; Wüstenhagen et al., 2008), where the decision-making process was an element of the technology acceptance and adoption process. Mahapatra et al. (2008) sees the end customer decision-making process in five steps, where end customers (1) perceive the need for a new heating product, (2) the heating system is planned, (3) the customers search for information and after the (4) information evaluation phase, (5) the final product is selected. In contrast, Wüstenhagen et al. (2008) do not see planning as a separate stage, but examine the use and the post purchase as a different stage. Both models agree that there is a perceived need that triggers customers to recognise a problem and to start the decision-making process for purchasing a new heating product. Furthermore, both models agree that at the phase of information search the role of mass media (TV, Radio, print advertisements, etc.) and interpersonal communication channels are influencing customers in their decision-making. Still, the following questions remain:

- At what stages of the decision-making process does social influence prevail?
- Who are the participants of the interpersonal communication?
- What is the influencing communication channel or what is the source of the information?

## Research framework and method

In order to examine the social influence along the decision-making process and to explore the influencing factors from a marketing managerial point of view – regardless of the type of

the product and its customer acceptance – a two-step empirical research was carried out with respondents in Hungary in summer 2013.

In the first step a limited set of in-depth interviews was conducted to explore the underlying motives and attitudes of the end customers and to understand the complex mechanism of the purchase decision process, its stages and the role of social influence. Moreover the findings of the interviews contributed to the research framework of the quantitative online questionnaire. Based on the information interviewees provided, the following decision-making steps were separated: (1) awareness about heating brands and technologies, (2) initial purchase situation, (3) start searching for information, (4) information validation, (5) final decision and (6) post purchase evaluation.

In-depth interviews were carried out with 10 pair respondents in west Hungary, where the presence of the partner (husband/wife) reduced the uncertainty of recalling memories the purchase process. The respondents were chosen by the non-probability snowball sampling technique, i.e. personal referrals by the respondent. Such a method ensured that the interviews were conducted with respondents that owned a property and bought a heating product on their own. This would contribute to a better understanding of the customers' social environment as the referrals ensured further customers in the same purchase situation, but with this interview method we might only have interviewed customers with the same social category. The interviews were carried out in the homes of the respondents in order to ensure a more relaxing atmosphere. The questioning was based on an interview outline. Interview notes were made and were analysed with the Nvivo 10 program.

Based on the results and the learnings of the interviews an online questionnaire was elaborated and carried out between September and December in 2013 with Hungarian residents who were aged over 18 years and had Internet access. The population of the questionnaire was accessed through an online panel provided by an online panel agency Ipsos Interactive Services and the access to this panel was financed by Bosch Thermotechnik GmbH. The respondents of the panel are pre-recruited (i.e. they have agreed to take a part in online market research surveys). The quality of the panel is regularly verified and the panels are actively updated and managed by Ipsos Interactive Services. The members of the panel represent people over 18 years old that use the Internet. It is not possible to be sure that they represent all (potential) purchasers of heating products in Hungary. For example, the online survey does not capture customers who do not have access to the Internet and bought a heating product through offline sales channels such as by calling an installer or visiting a professional store. This is a limitation of our survey.

After the respondents opened the link for the web questionnaire – they were screened based on answer to the following pre-conditions: (1) own house or flat and (2) changed the heat-generating product in the past 18 months or intend to change during the coming 18 months. This screening was necessary to identify a target group that fits to the topic. In total 1,163 respondents recruited from the online panel opened the questionnaire, thereof 643 respondents were filtered out as they did not fulfil one of the pre-conditions of the screening questions. 103 respondents dropped out halfway whilst filling-in the ques-

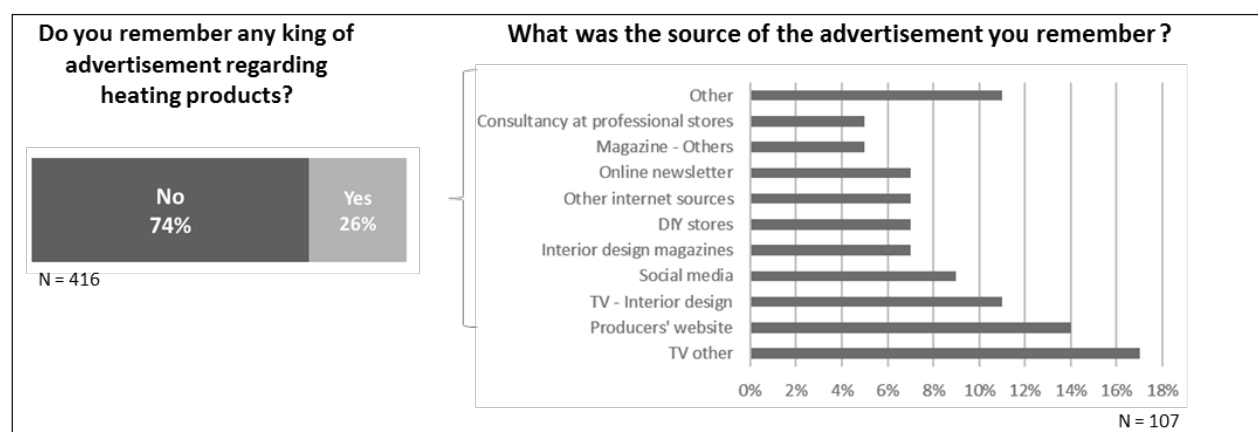


Figure 1. Social influence at the awareness stage.

tionnaire, probably due to the complexity of the research topic and/or the difficulty to recall the purchase process. Furthermore, the length of the questionnaire (ca. 12 minutes to fill-in) might have also contributed to this higher drop-out rate.

Finally 417 respondents finished the questionnaire, of which 130 bought a new heating product in the past 18 months and 287 respondents were planning to purchase in the coming 18 months. This means the sample consists of respondents in different stages of adoption decision. Hence, the results that are presented until the end of the information validation stage show the responses of all 417 respondents, and the results from the final decision and post purchase phase only show the results from actual purchasers (130 respondents).

The questionnaire was structured in three main parts: (1) in the first section respondents were asked in general about their attitude towards energy consciousness and heating habits, (2) in the second section respondents were asked about their decision-making process and the role of social influence, the communication channels, the content of information, and brand preference, (3) and in the last section respondents were asked about their post purchase evaluation. The questionnaire was based on nominal and interval scales, where nominal scales were applied in order to identify motives behind certain actions (e.g. motivation for purchasing a new heating product) and interval scales to measure the respondents' attitude (environmental consciousness) or preference (brand preference). All the respondents, who participated in the interviews own an estate (house or flat) and took an active part in the purchase decision.

## Results

This section presents the survey results regarding the role of social influence at the different stages of decision-making.

### STAGE 1 – THE AWARENESS PHASE

Respondents were asked if they remember any kind of advertisement regarding heating products. Results presented in Figure 1 show that only a minority of respondents (26 %) could recall any kind of advertisement despite the fact that they bought a heating product in the past 18 months or were willing to buy during the coming 18 months. The recalled advertisement were mainly offline ones (TV, Magazines, Radio, Consultancy in stores, etc.).

### STAGE 2 – THE INITIAL PURCHASE SITUATION PHASE

Respondents were asked about what motivated them to start the purchase decision-making process. Results presented in Figure 2 show that respondents were mainly motivated by financial and environmental factors. Only 8 % mentioned emergency breakdown as the trigger of the purchase, which means that they mostly deliberately plan their purchase. Another important result is that subsidies, governmental regulations or advertisement were not motivating customers for purchase. At this stage, the source of the information is, first, their former experience. Opinion of people around (quoted by 46 % of respondents) and word of mouth (18 %) also play a role.

### STAGE 3 – THE INFORMATION SEARCHING PHASE

At that stage (Figure 3):

- The majority of respondents (59 %) started searching for information on their own, with online sources (producers' website, Google search, blogs, other sources on the Internet other, general information portals, online newsletters and social media) being a source of information for the majority of them (67 %). Most of them visited the producers' website (25 %). 21 % a related store, only a minority turned to any offline advertisement sources. A higher proportion counted on the opinion and experiences of other customers by visiting blogs and forums.
- 27 % of respondents turned to other people, among which 40 % turn to people in their social environment (parents, friends, colleagues, husband /wife) and 32 % consulted installers. The other professionals (planners, energy consultants, architects and technical supervisors) are less frequently consulted, maybe because end customers only turn to these professional for very specific information (e.g. energy level calculation, execution plan). They turned to other people to get recommendation on technology (24 %), brand (14 %) or professionals (9 %). The social environment did not contribute to initiate the purchase and did not make the final decision.
- 14 % of respondents tried to recall information from memory.

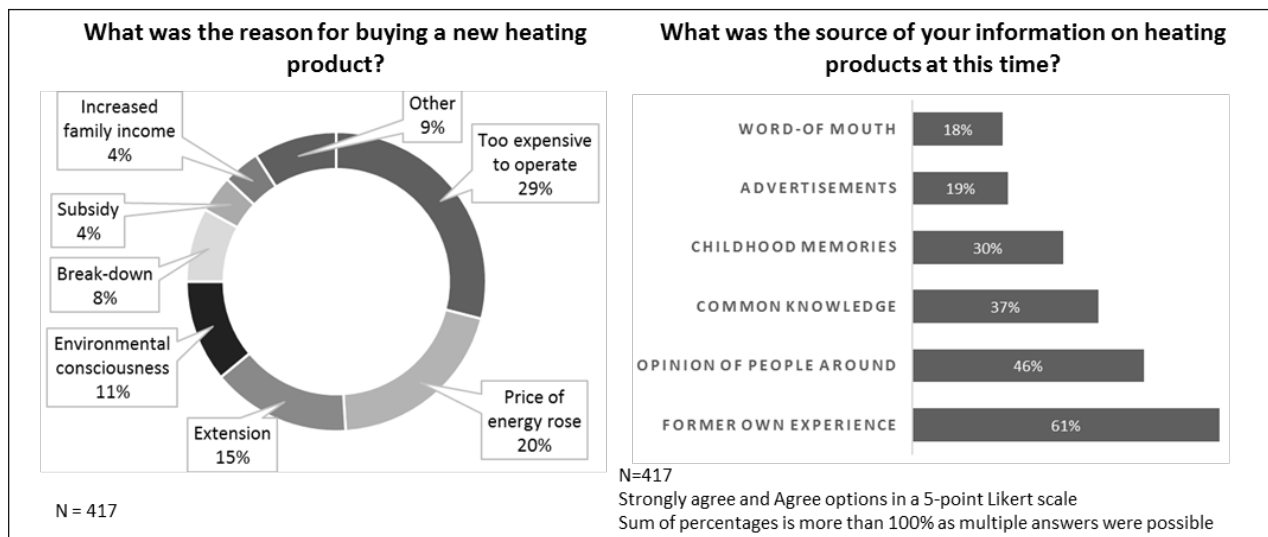


Figure 2. Social influence at the initial purchase situation phase.

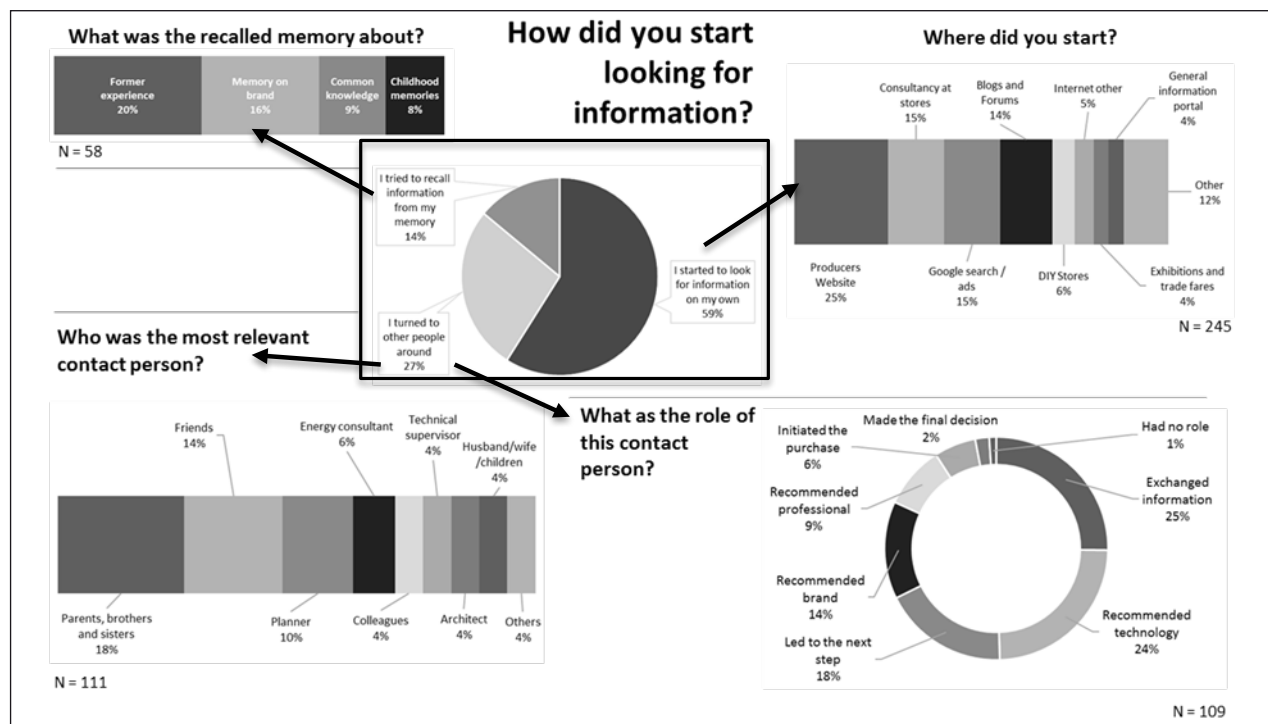


Figure 3. Social influence at the information searching phase.

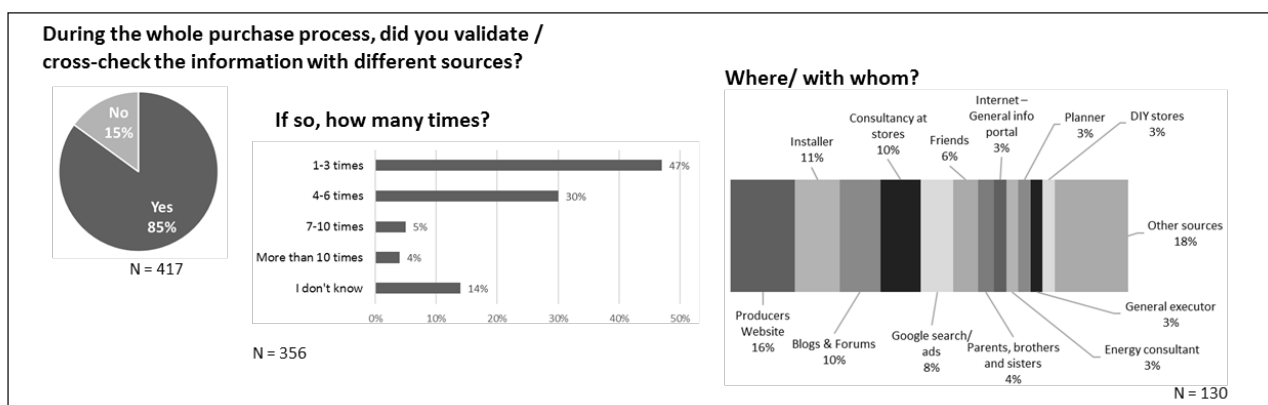


Figure 4. Social influence at the information validation stage.

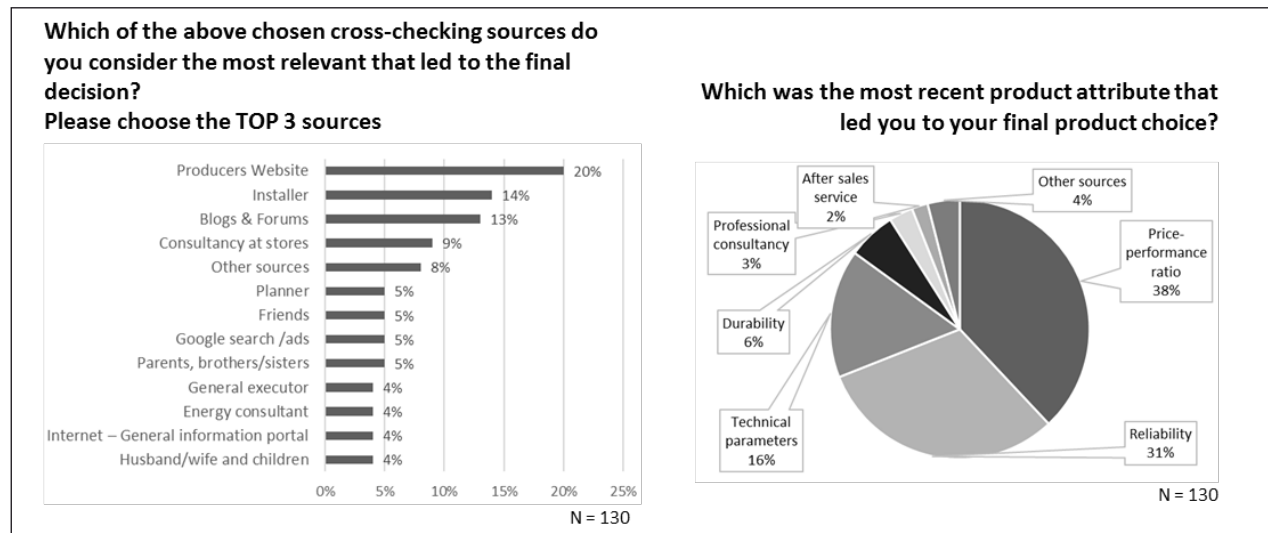


Figure 5. Social influence at the final decision stage.

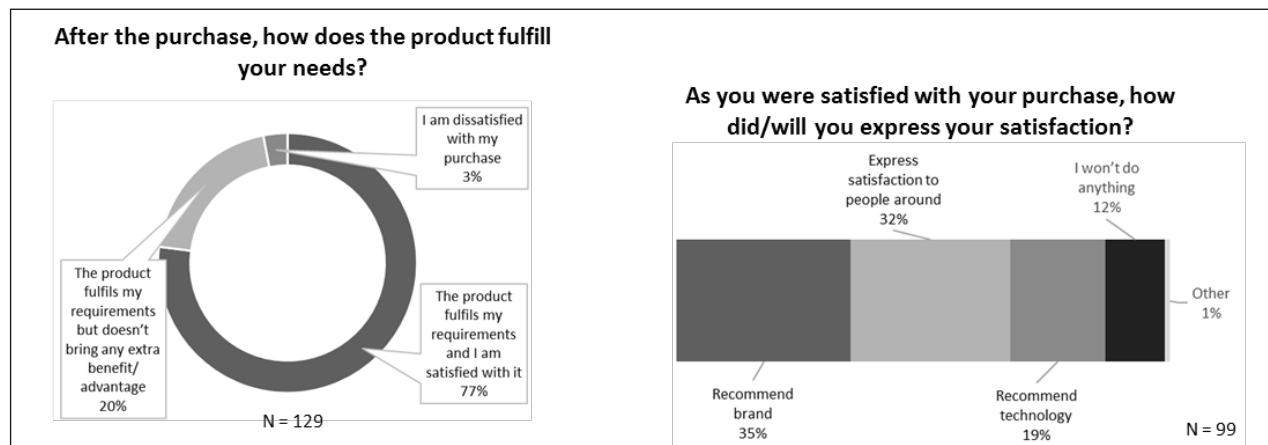


Figure 6. Social influence at the post-purchase phase.

#### STAGE 4 – THE INFORMATION VALIDATION STAGE

During the purchase process the majority of respondents (85 %) cross-checked information with other sources at 1–3 times. These sources include online sources (41 % of respondents), the social environment (27 %) and the installer (11 %) (Combination of different sources in the last picture of Figure 4).

#### STAGE 5 – THE FINAL DECISION STAGE

Respondents were asked to choose, out of the information sources that they had used to cross-check the information, which were the three most relevant ones, i.e. the ones that led to the final decision. Online sources<sup>2</sup> were quoted by 44 % of respondents, and the social environment<sup>3</sup> by 30 % of them. The two main product attributes that played a role in the final purchase were the price-performance ratio and the reliability of the product (Figure 5).

#### STAGE 6 – THE POST-PURCHASE EVALUATION STAGE

After the purchase (Figure 6), 77 % of respondents were satisfied with their purchase decision, the majority of which was willing to express their satisfaction either by recommending the brand (35 %) or the technology (19 %), or simply by expressing satisfaction to people around (32 %). The number of respondents is too low for the other items to be statistically representative.

### Conclusion

Social influence plays an important role in the initial purchase situation, the information search, and the validation stage of the purchase process. In the product use stage, respondents with perceived satisfaction are more willing to take an action by expressing their feeling to the people around or recommending a brand to others. Professional online sources of information such as the producers' websites or the installer play a more important role in the final decision stage.

Social influence is not motivating the customers for purchasing a new heating per se, e.g. a friend's suggestion itself is not a motivation for purchase. However, it plays a role in the later

2. Result of summed online sources: Producers' website, Blogs, Google search/ads, General info portal, other online sources, social media, and online newsletter.

3. Result of summed social tie sources: Blogs, Friends, Parents, Colleagues, Husband/wife, Neighbor, Social media.

stages of the process. Customers turn to their social environment when they start looking for information, by both starting to search for information on their own or by turning to other people around. They are rather counting on the experience of other customers then to the advisory of the installer by visiting blogs and forums (online) or they are relying on the experience and opinion of their family and friends (offline). In this case end customers are using both online and offline communication channels to interact with their social environment, in order to exchange information and experience or for recommending a technology or a brand.

End customers cross-check the gained information, which means that they are involved in a conscious decision-making process. They turn to diverse information sources where social influence plays a bigger role than the installer. Online sources appear as a key element in all stages of the purchase process except the awareness stage, especially when customers search information on their own (stage 3) and when they seek to cross-check the information (stage 4).

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